PS-LX410/LX410(C)

SERVICE MANUAL

PS-LX410:
US Model
AEP Model
UK Model
E Model
PS-LX410(C):
US Model
Canadian Model

The PS-LX410 (AEP, UK, E Model) is supplied with a XL-250G cartridge, while the PS-LX410 (US model) is not supplied with a cartridge.

SPECIFICATIONS

Turntable

Platter	30.1 cm (12 in.), aluminum-alloy diecast
Motor	Linear torque BSL (brushless and slotless) motor
Drive system	Direct drive
Control system	Quartz lock servo control system
Speed	33⅓ rpm, 45 rpm
Starting characteristics	Comes to nominal speed within ⅔ revolution (33⅓ rpm)
Wow and flutter	0.025% (WRMS)*
	0.03% (WRMS)
	±0.045% (DIN)
Signal-to-noise ratio	75 dB (DIN-B)
Load characteristics	0% up to 100 g stylus force (at lead-in groove of a record)
Speed deviation	Within ±0.0003%
Automatic system	Lead-in, return, reject, repeat

Tonearm

Type	Statically balanced
Pivot-to-stylus length	216.5 mm (8½ in.)
Overhang	16.5 mm (21/32 in.)
Usable cartridge	Plug-in type, 6 g

Cartridge VL-45G (supplied with some units)

Type	Moving magnet type
Frequency response	20 Hz to 20 kHz
Channel separation	20 dB at 1 kHz
Output voltage	3.5 mV at 1 kHz, 5 cm/sec.
Load impedance	47 to 100 kilohms
Tracking force	1.25 g
Stylus	Sony ND-145G (conical 0.6 mil diamond)
Weight	6 g

— Continued on page 2 —

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE TRAME ET UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

MICROFILM

STEREO TURNTABLE SYSTEM

SONY®

AUD

Cartridge XL-250G

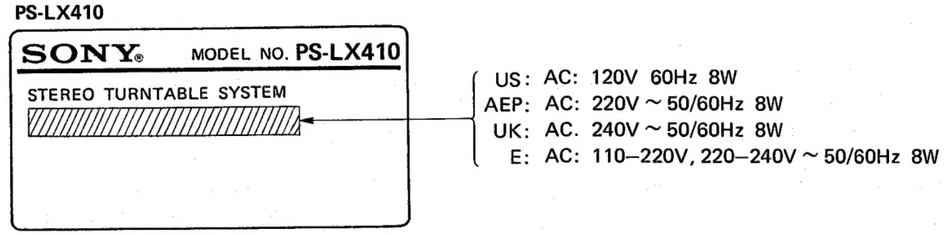
Type	Moving magnet type
Frequency response	20 Hz to 20,000 Hz
Channel separation	8 dB at 1 kHz
Output voltage	5 mV at 1 kHz, 5 cm/sec., 45°
Load impedance	47 to 100 kilohms
Tracking force	1.0 to 1.5 g (1.25 g recommended)
Stylus	Sony ND-250G
Weight	6 g

General

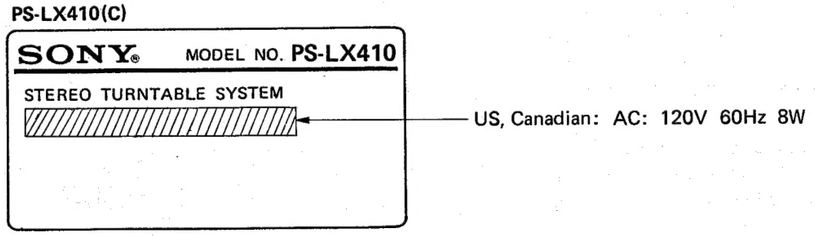
Power requirements	US, Canadian model: 120 V ac, 60 Hz
	AEP model: 220 V ac, 50/60 Hz
	UK model: 240 V ac, 50/60 Hz
	E model: 110–220 or 220–240 V ac, adjustable 50/60 Hz
Power consumption	8 W
Dimensions	Approx. 430 × 110 × 340 mm (w/h/d) (17 × 4⅜ × 13⅜ in.) including projecting parts and controls
Weight	Approx. 4.7 kg (10 lbs 6 oz), net
	Approx. 5.7 kg (12 lbs 9 oz), in shipping carton

MODEL IDENTIFICATION
— Specification Label —

PS-LX410



PS-LX410(C)



FEATURES

Automatic turntable system
Automatic lead-in, return, reject and repeat functions are activated by merely pushing the buttons.

Linear torque BSL motor
Direct drive system with Sony's unique BSL (Brushless and slotless) motor which has a high signal-to-noise ratio to virtually eliminate wow and flutter. The motor's high torque assures a quick attainment of 33⅓ rpm after only ⅔ revolution.

Quartz lock servo system
The turntable maintains an accurate and drift-free speed by referring to a frequency generated by a very stable quartz oscillator.

Low-mass tonearm and cartridge
The low-mass tonearm and cartridge allow the stylus to track with greater accuracy.

Resilient feet
The turntable has resilient feet that isolate the mechanism from external shock and vibration.

Disc centering guides
Disc centering guides facilitate placing a 30 cm record over the center spindle.

Wireless remote control operation
Using the optional RM-44 or RM-S410 system remote controller, start/stop play can be remotely controlled.

Notes on Repair

Check as follows when the turntable does not rotate.

1. Check to see if a waveform appears at Q107–110 emitter when DC 2V is applied to D105 cathode side.
   If the waveform appears, the motor drive circuit and motor are not defective, but the servo circuit may be defective.
2. If the motor does not rotate after step 1, the motor drive circuit or motor, etc. may be defective.

2-1. Motor Check
Check for power being conducted by applying a tester to the motor coil.

2-2. Hall Element Check
Measure the resistance values between each pin. (Between pins next to each other and diagonally across from each other.) The values should be about 600–1kΩ.

SAFETY CHECK-OUT (US Model)

After correcting the original service problem, perform the following safety check before releasing the set to the customer:
Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampers). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig. A)

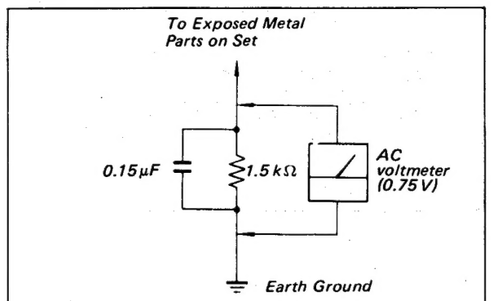
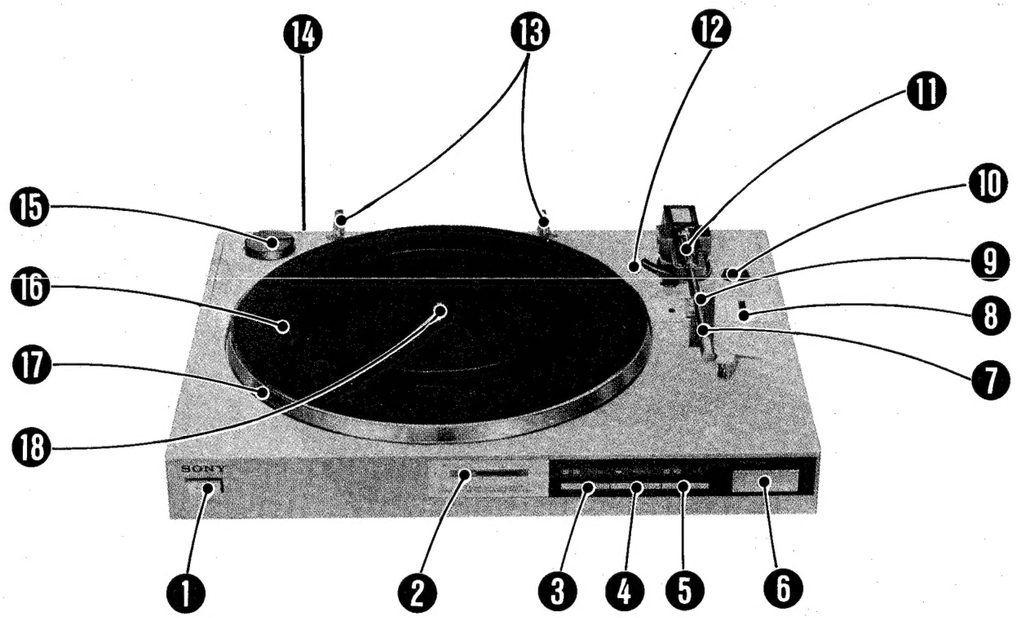


Fig. A. Using an AC voltmeter to check AC leakage.

PARTS IDENTIFICATION

The numbers in the photo are keyed to the following explanations.



❶ POWER switch
Press to turn on the turntable. To turn the turntable off, press it again.

❷ QUARTZ LOCK indicator
When the turntable platter starts rotating, this indicator flashes. When the platter speed is stabilized, this indicator lights up.

❸ SPEED selector and indicators
Selects the record speed. When the POWER switch is turned on, the speed is always 33⅓ rpm and the indicator on the right illuminates. When the selector is pressed, 45 rpm is selected and the indicator on the left illuminates.

❹ REPEAT button and indicator
Press this button to repeat play. The indicator illuminates and repeat play continues until this button is pressed to stop it. If the START/STOP button is pressed during repeat play, the tonearm returns to the arm rest and the turntable stops rotating.

❺ Record SIZE selector and indicators
Selects the record size. When the POWER switch is turned on, the size is always 30 cm and the indicator on the right illuminates. When the selector is pressed, 17 cm is selected and the indicator on the left illuminates.

❻ START/STOP button
Press this button to start the record playing, and the QUARTZ LOCK indicator flashes, then lights up. To stop during play, press it again.

❼ Tonearm

❽ ▼/▼ (cueing) lever
Used to lift or lower the tonearm.

❾ Arm rest

❿ ANTI-SKATING compensator

⓫ Sub-weight

⓬ Tonearm drop-point adjustment hole

⓭ Disc centering guides

⓮ Remote connector (rear)
Connect the optional RM-44 or RM-S410 system remote controller to this connector.

⓯ 45-rpm adaptor

⓰ Rubber mat

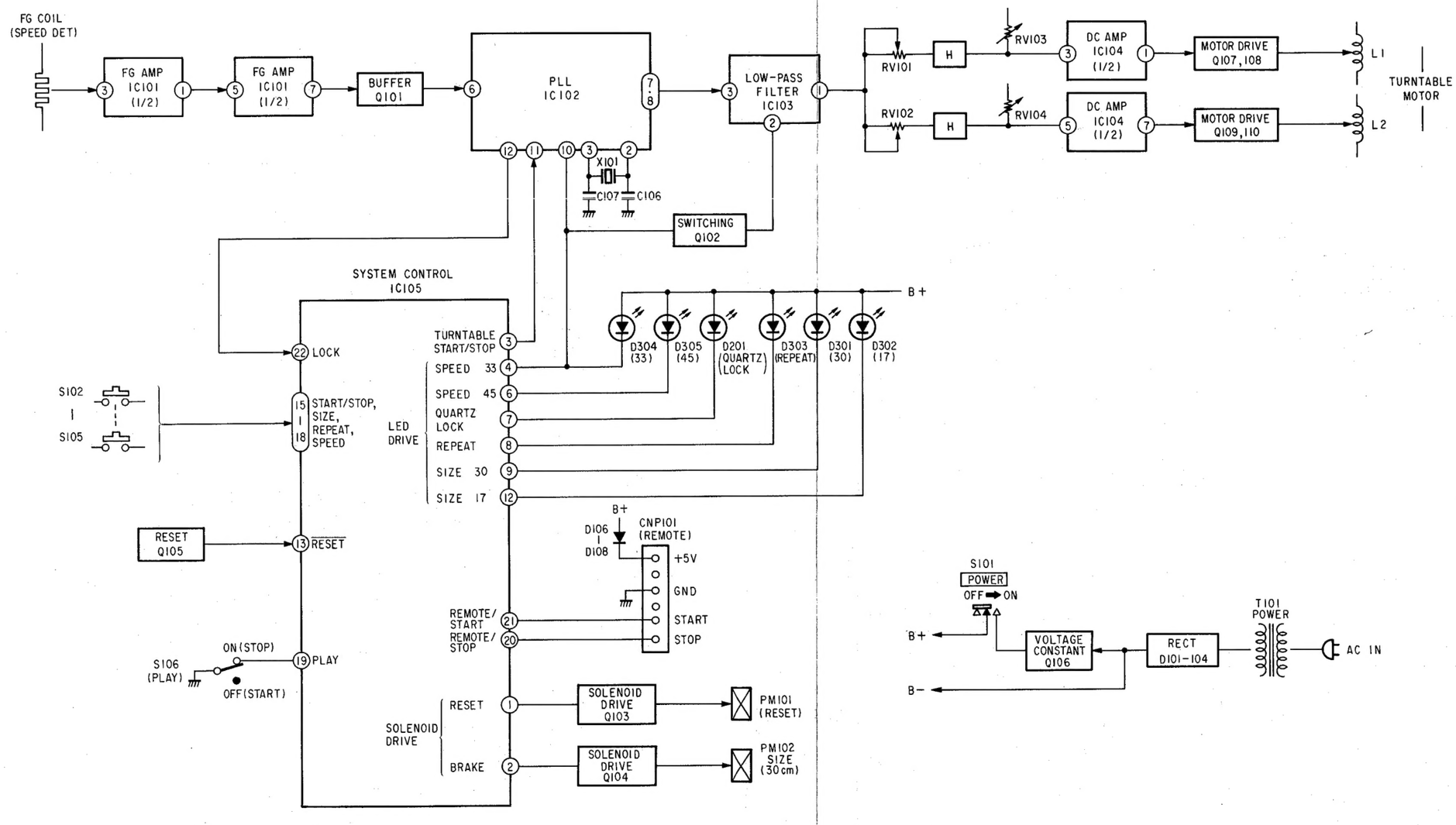
⓱ Turntable platter

⓲ Center spindle

PS-LX410/LX410(C)

SECTION 1
OUTLINE

1-1. BLOCK DIAGRAM

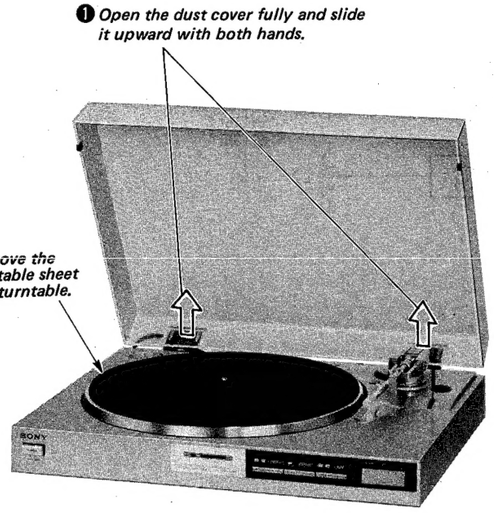


SECTION 2
DISASSEMBLY

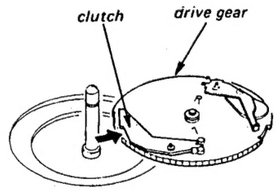
2-1. REMOVAL

Note: Follow the disassembly procedure in the numerical order given.

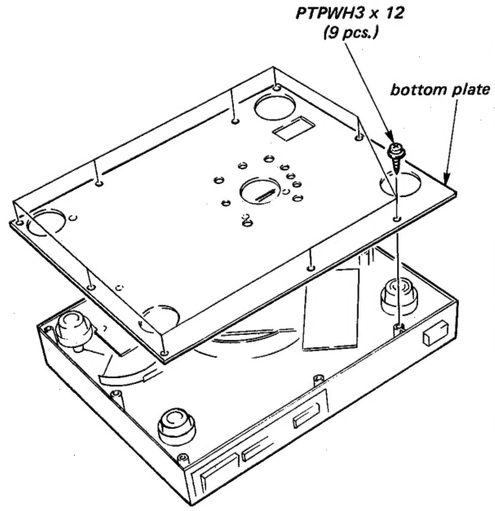
DUST COVER, TURNTABLE



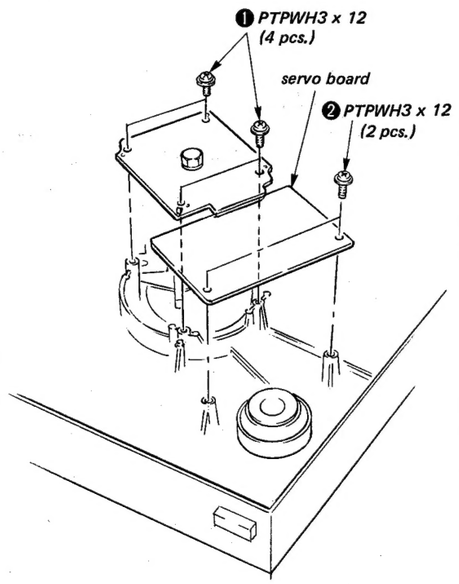
Caution for installation:
Move the clutch in the direction as shown by the arrow and put it the inside of the drive gear.



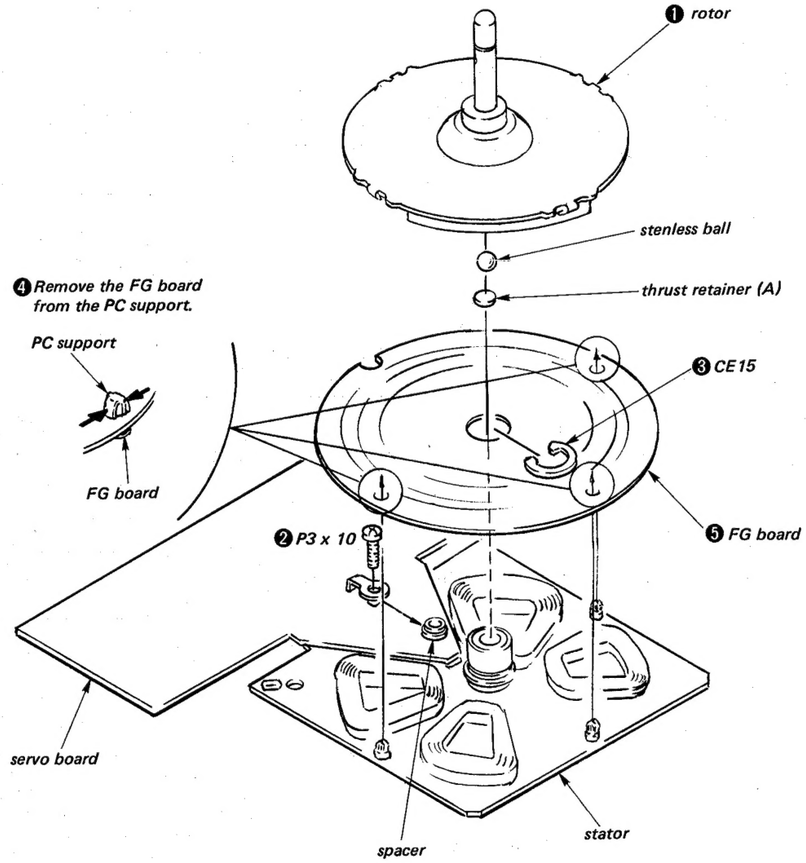
BOTTOM PLATE



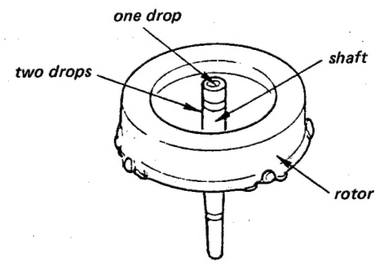
SERVO BOARD



ROTOR, FG BOARD

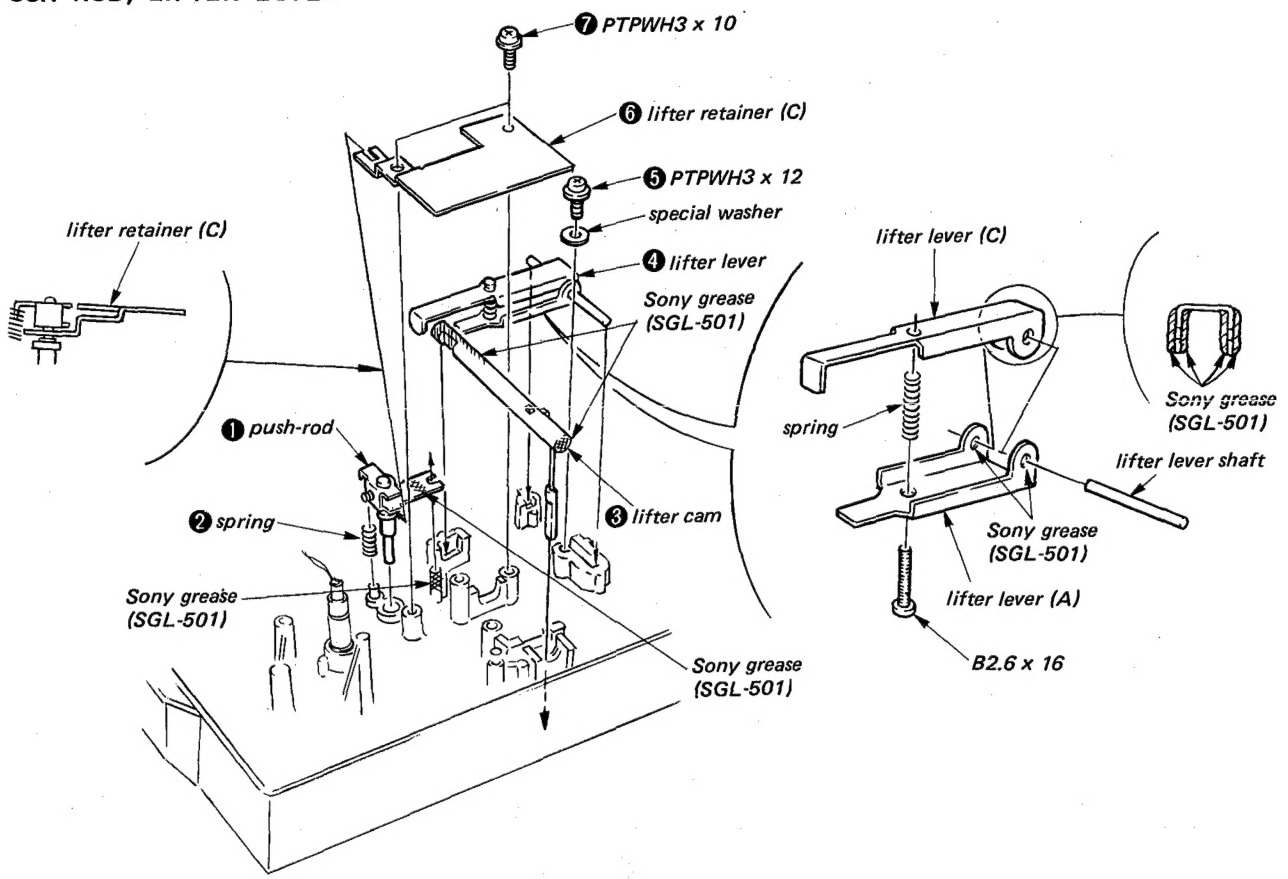


Caution for installation:
When the rotor is replaced, apply Sony oil OL-2KA to the rotor shaft as illustrated below.



2-2. INSTALLATION

PUSH ROD, LIFTER LEVER

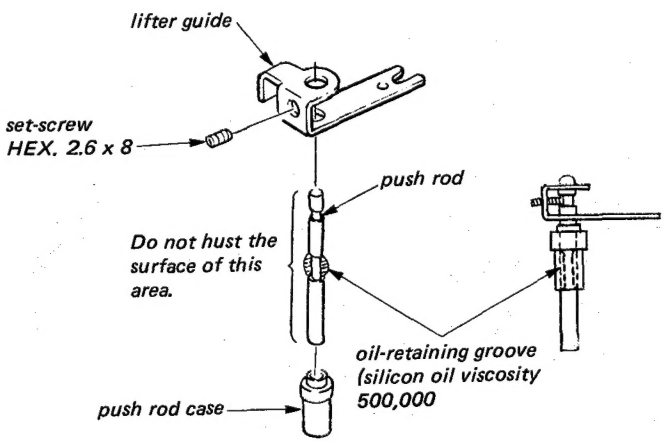


Caution for installation:

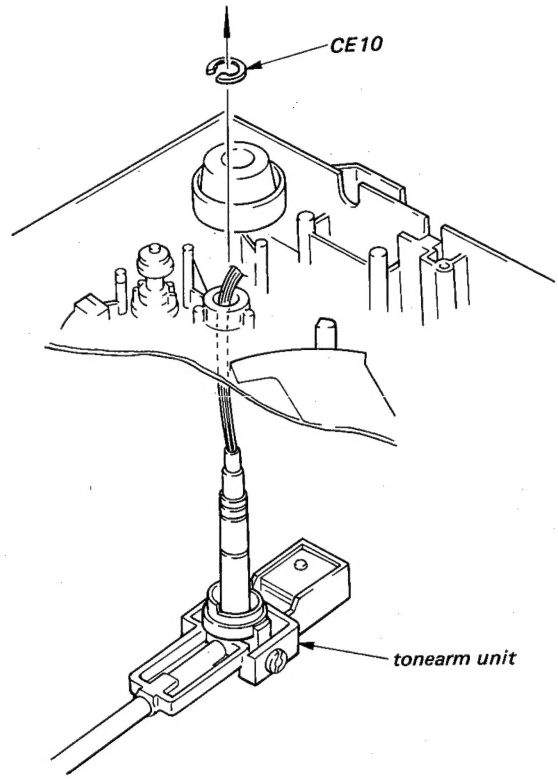
When the push rod is replaced, apply silicon oil (viscosity: 500,000 cs) to the push rod as illustrated below.

Caution:

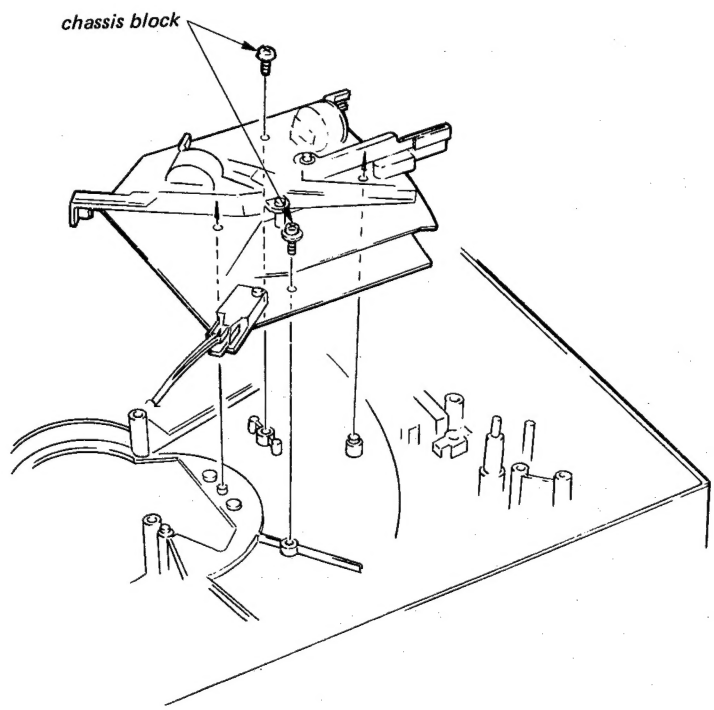
When lubricating, rotate and move the push rod up and down a few times.



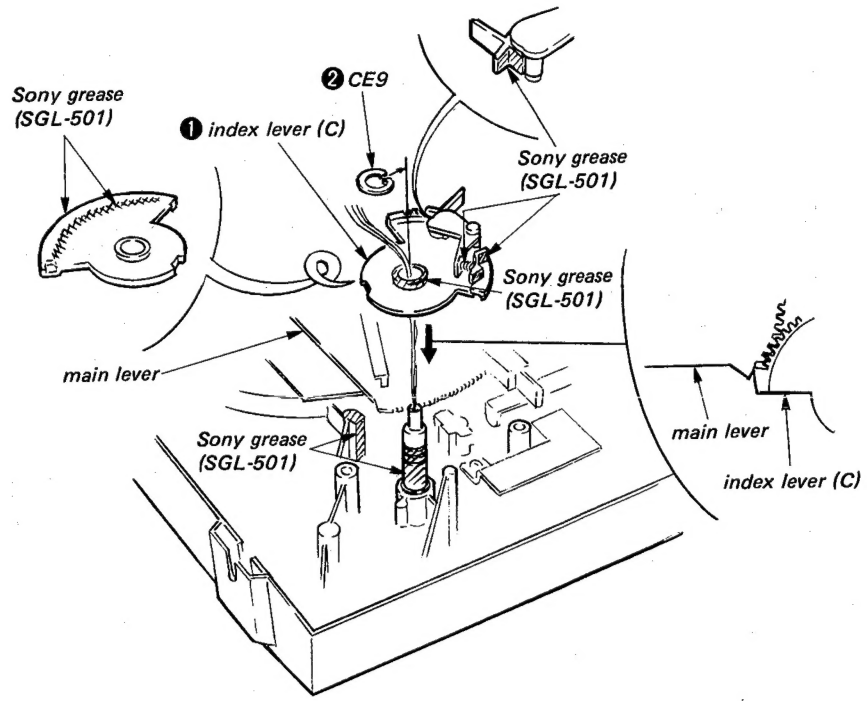
TONE ARM UNIT



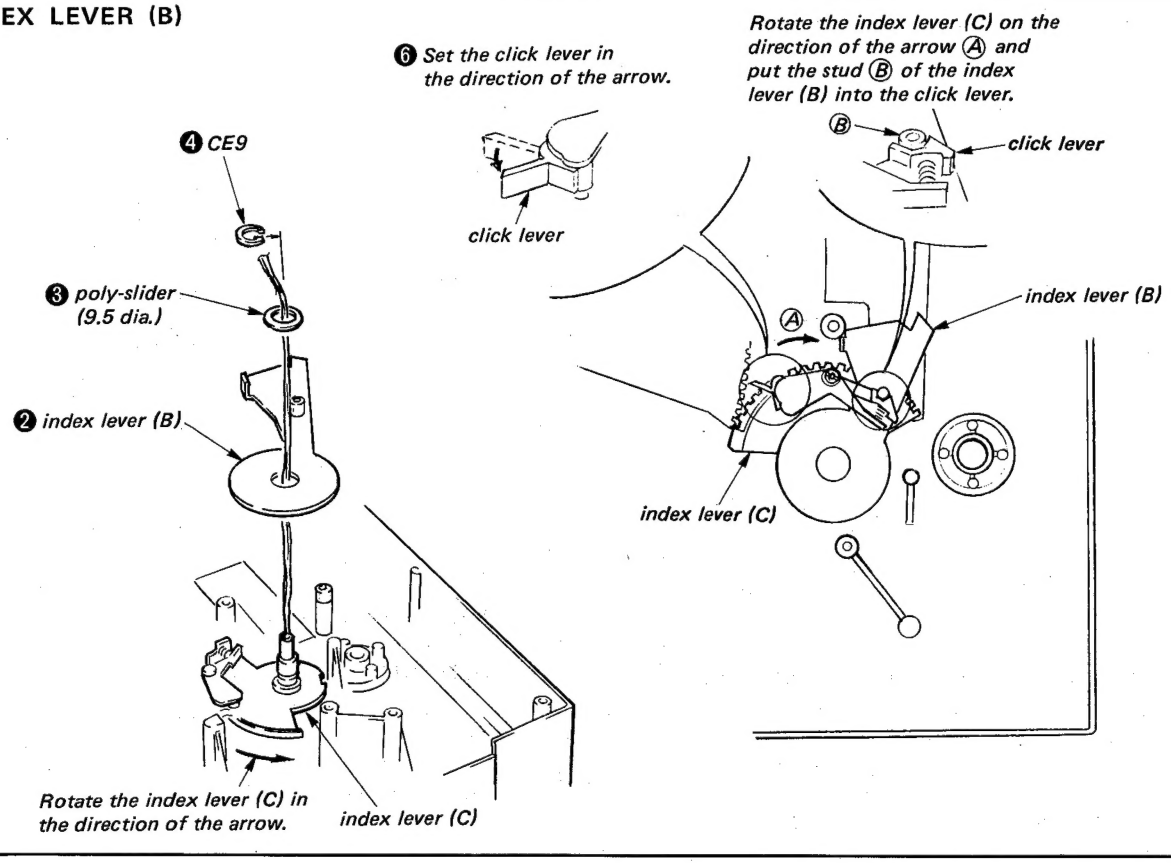
CHASSIS BLOCK



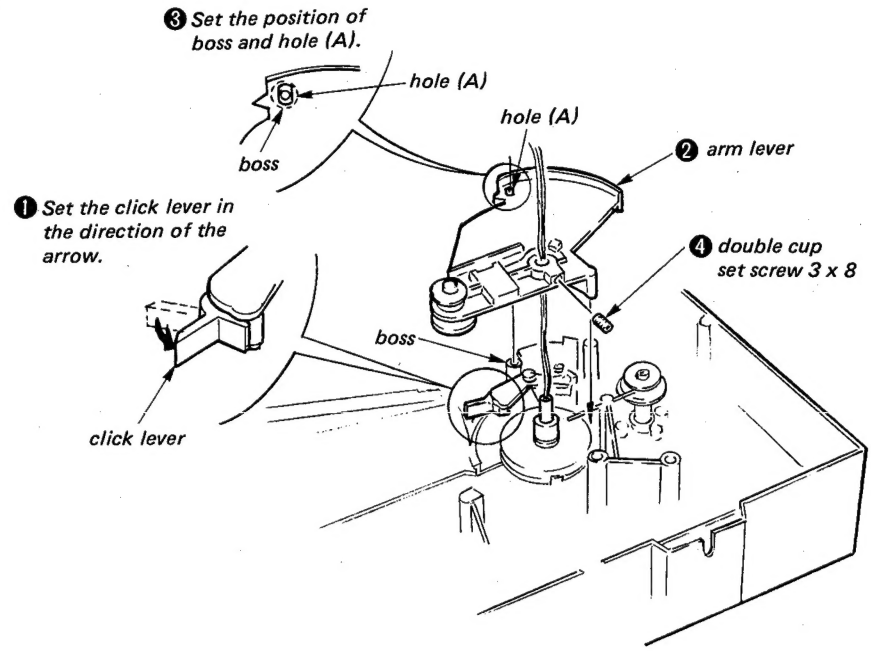
INDEX LEVER (C)



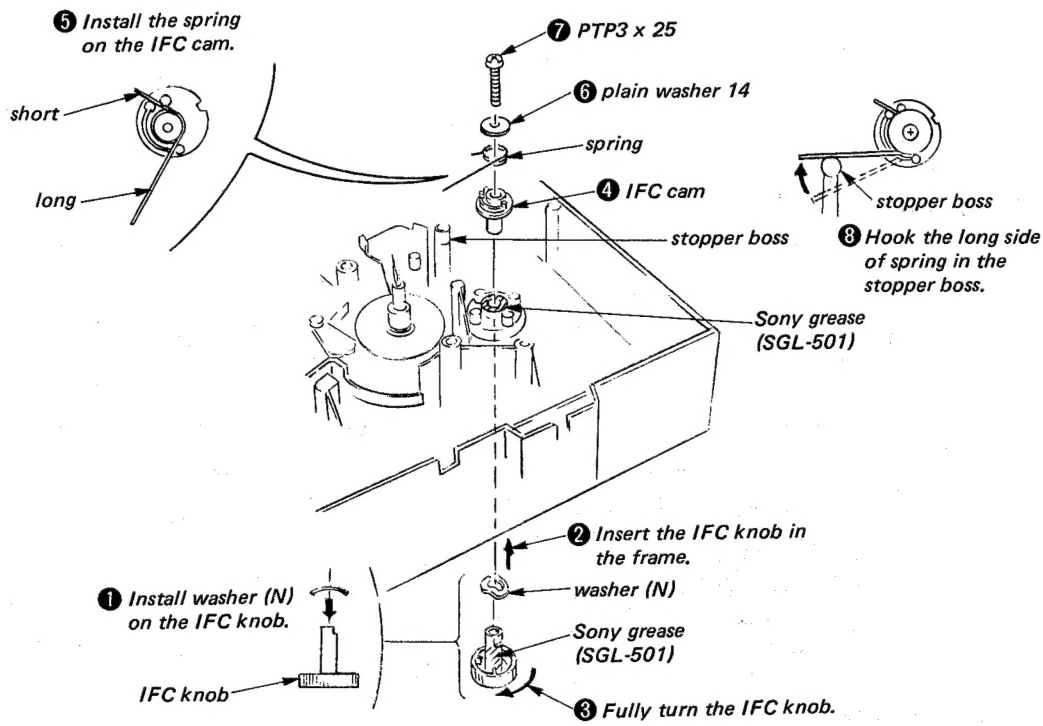
INDEX LEVER (B)



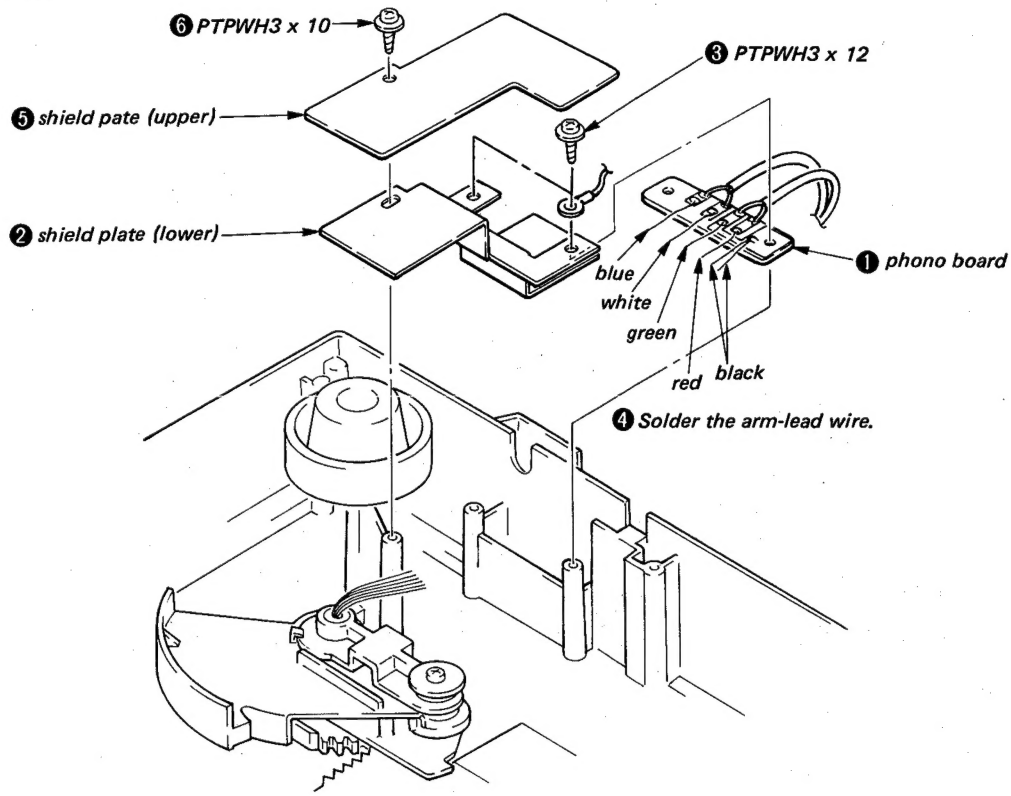
ARM LEVER



IFC (ANTI-SKATING) KNOB

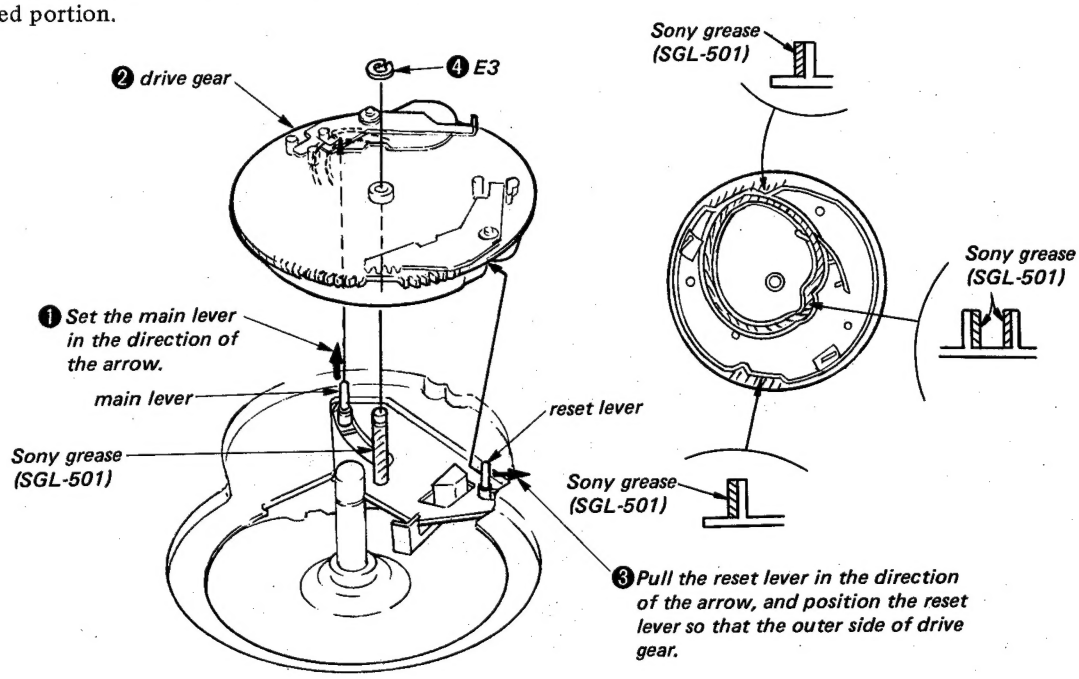


PHONO BOARD

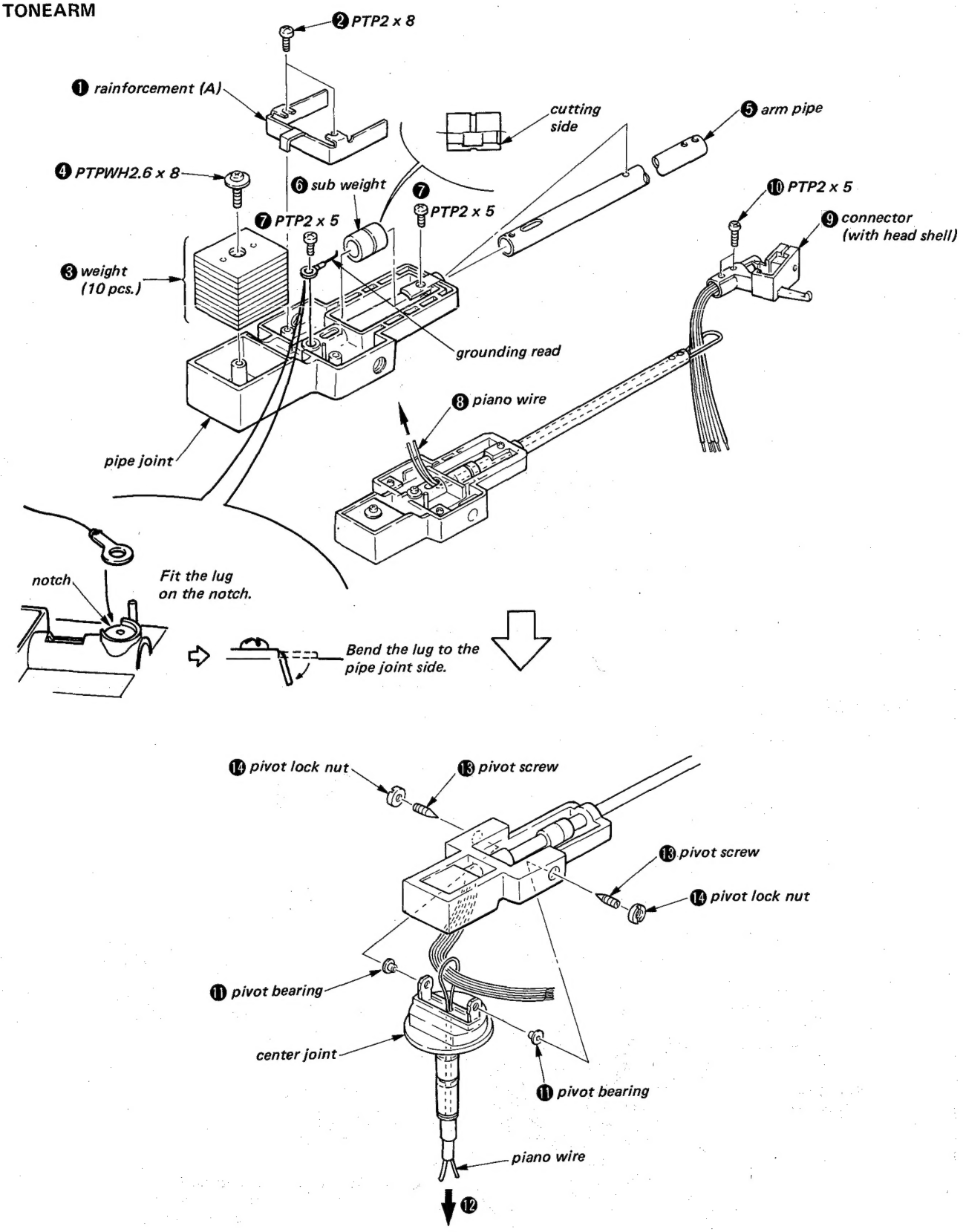


DRIVE GEAR

If necessary, apply Sony grease (SGL-510) to the specified portion.



TONEARM


❷ PTP2 x 8
❶ rainforcement (A)
cutting side
❺ arm pipe
❹ PTPWH2.6 x 8
❻ sub weight
❼ PTP2 x 5
❼ PTP2 x 5
❿ PTP2 x 5
❾ connector (with head shell)
❸ weight (10 pcs.)
grounding read
❽ piano wire
pipe joint
notch
Fit the lug on the notch.
Bend the lug to the pipe joint side.
⓮ pivot lock nut
⓭ pivot screw
⓭ pivot screw
⓮ pivot lock nut
⓫ pivot bearing
center joint
⓫ pivot bearing
piano wire
⓬

SECTION 3
ADJUSTMENTS

3-1. MECHANICAL ADJUSTMENT

Brake Lever Position Adjustment

1. Rotate the drive gear in the direction of the arrow by hand, and set the reset lever to the reset position where the pin of the reset lever is set into the reset groove of the drive gear. See Fig. 1.
2. Confirm that the portion Ⓐ of the size lever lightly touches to rectangular hole of the chassis. See Fig. 2.
   At this time, adjust the adjustment screw so that the brake lever is slightly detached from the size lever. See Fig. 3.
3. Secure the adjustment screw with locking compound.

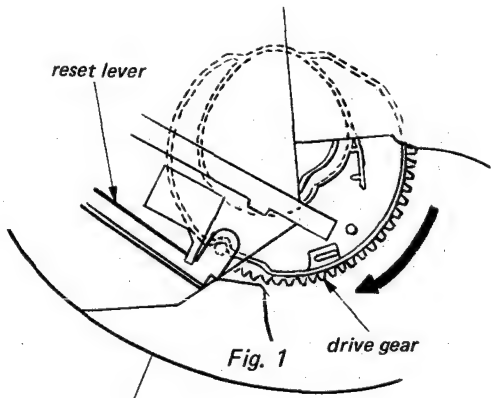
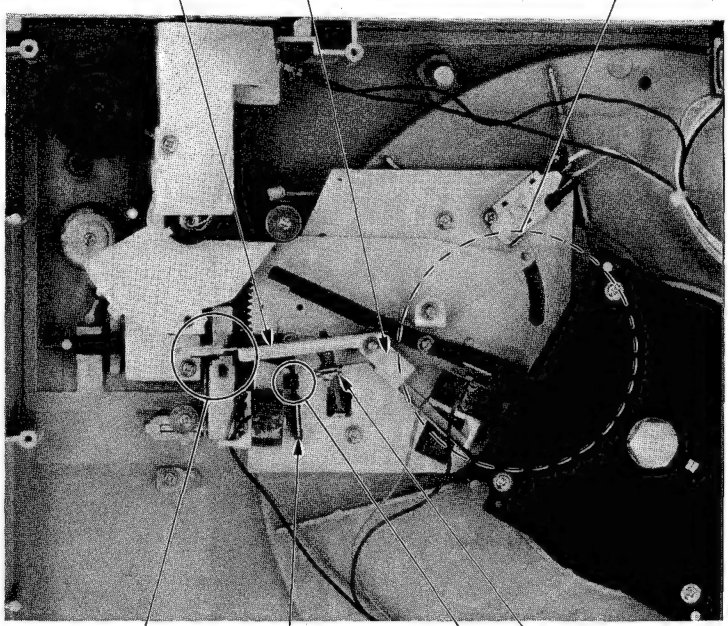


Fig. 1



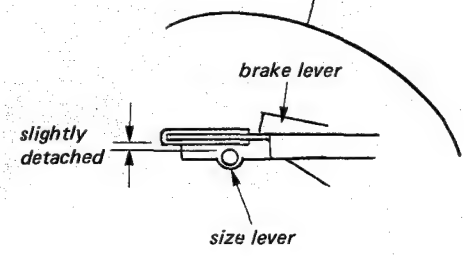


Fig. 3

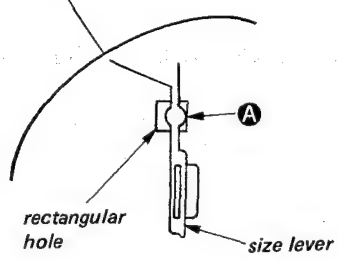


Fig. 2

Stylus Height Adjustment

Note: Perform both adjustments for manual and automatic operations.

1. Automatic

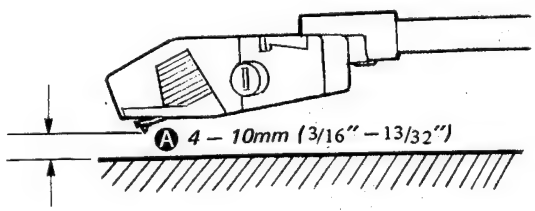
1-a) Put a test record on the mat.

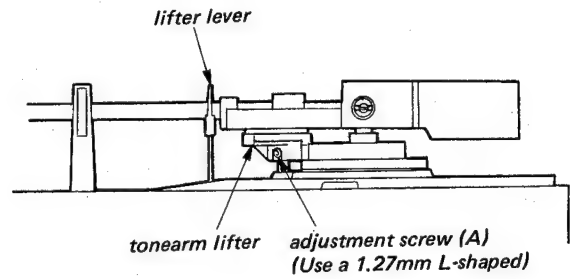
1-b) Depress the lifter lever to make a lifter-down mode (▽).

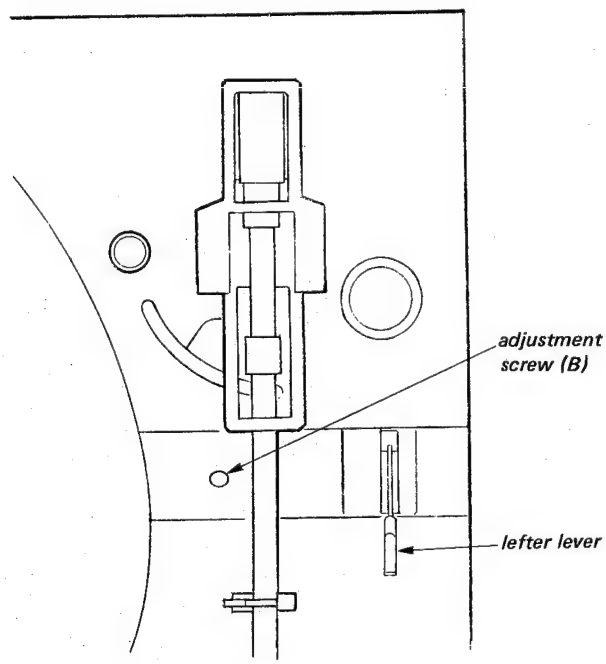
1-c) Press the START/STOP button to start the operation.

1-d) Turn the POWER off just when the tonearm has moved to the automatic-return point and the tonearm lifter has started to lift the tonearm. Stop the turning of the turntable by hand.

1-e) Loosen the adjustment screw (A) and adjust the height of the tonearm lifter so that the stylus height Ⓐ becomes in 4mm to 10mm (3/16" to 13/32").







2. Manual

2-a) Put a test record on the mat.

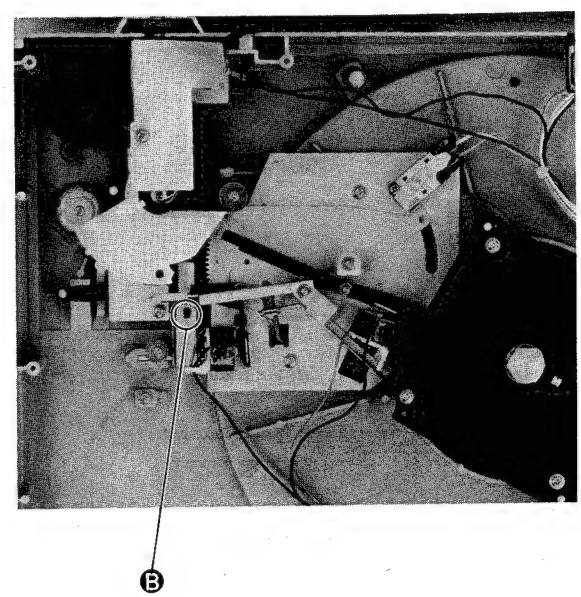
2-b) Depress the lifter lever to make a lifter-up mode (▽).

2-c) Press the START/STOP button to start the operation.

2-d) Turn the POWER off just when the tonearm has come to the lead-in position and stopped moving.

2-e) Adjust the adjustment screw (B) so that the stylus height Ⓐ becomes in 4mm to 8mm (3/16" to 13/32").

2-f) Secure the portion Ⓑ with locking compound.



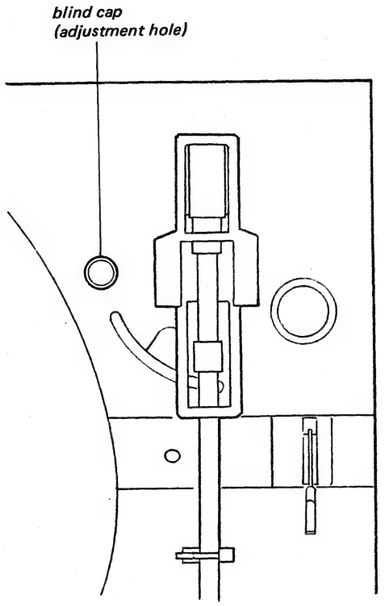
Stylus Drop-point Adjustment

1. Remove the blind cap.
2. Set the SPEED switch to 33.
3. Put a test record YFSC-16 on the mat.
4. Press the START/STOP button.
5. By using a hex-shaped ordinal pencil or a screwdriver, turn the adjustment screw so that the stylus tip drops on the record at the 4 – 16 count position.

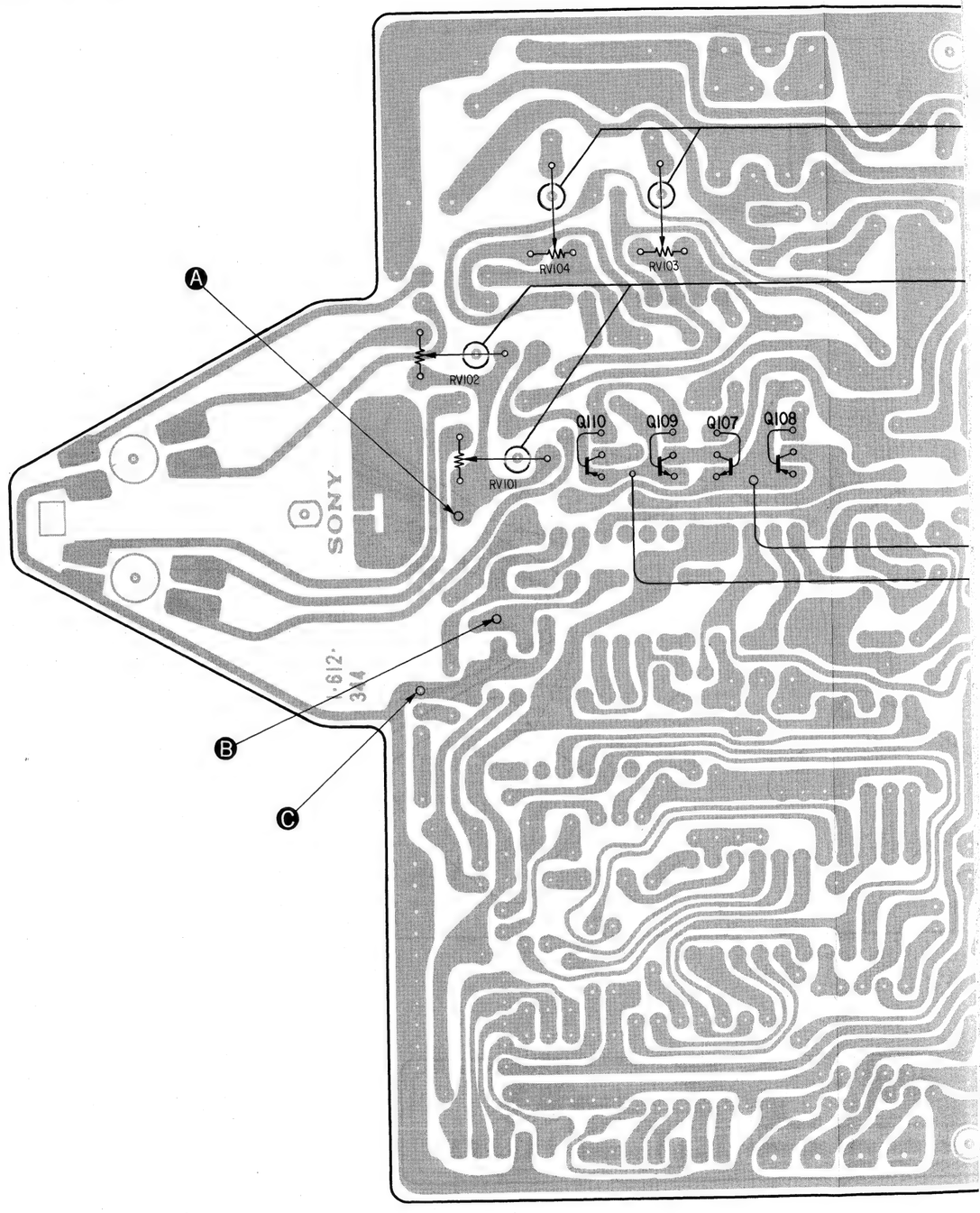
Adjustment screw rotation	Drop point
clockwise	to inside (higher counts)
counterclockwise	to outside (lower counts)

6. After the adjustment, confirm that the auto-return is started within 3 – 12 count on the test record.

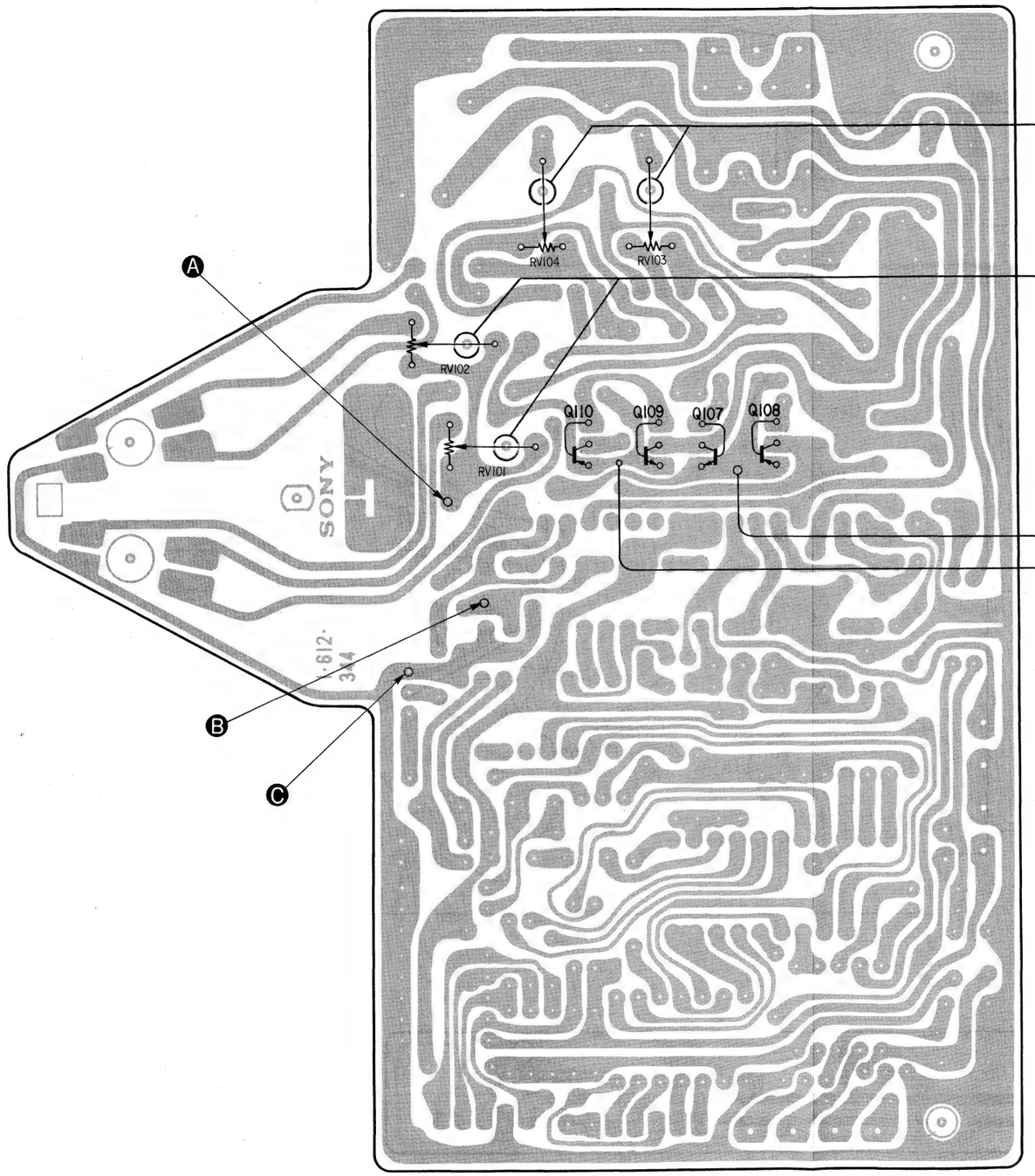
Note: The proper adjustment for a 30cm record is also correct for a 17cm record.



3-2. ELECTRICAL ADJUSTMENT

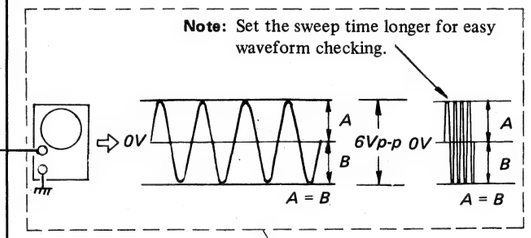


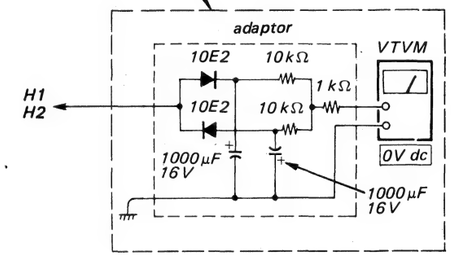
3-2. ELECTRICAL ADJUSTMENT



Gain/Offset Adjustments

1. Connect the pattern Ⓑ to the pattern Ⓒ, and apply a 2V dc to the pattern Ⓐ.
2. POWER switch: ON
   SPEED switch: 45
3. Adjust the gain adjustment RV101 at the switch position H1 for a 6Vp-p reading on the oscilloscope.
4. Adjust the gain adjustment RV102 at H2 for a 6Vp-p reading.
5. Adjust the offset adjustment RV103 at H1 for a 0V dc centering on the waveform.
6. Adjust the offset adjustment RV104 at H2 for a 0V dc centering.
7. After the adjustments, disconnect the pattern Ⓑ from the pattern Ⓒ and remove the dc-voltage connection from the pattern Ⓐ.





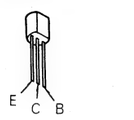
PS-LX410/LX410(C)

4-1. MOUNTING DIAGRAM

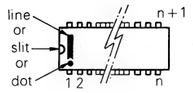
— Conductor Side —

- **Semiconductor Lead Layouts**

2SB740
2SC1364
2SC3070
2SC3112



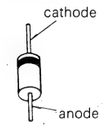
TC9142P



(Top view)

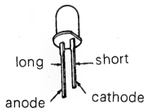
2SD774

10E2
1SS119
HZ7A1L

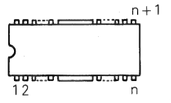


DTC144ES
DTC144WS

GL5EG22
GL5HD5

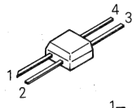


LM6417E-364



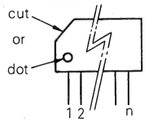
(Top view)

THS102A



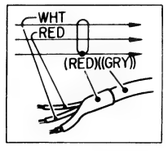
1 ⊐ Ic
3
2 ⊐ VHO, VH
4

M5218L

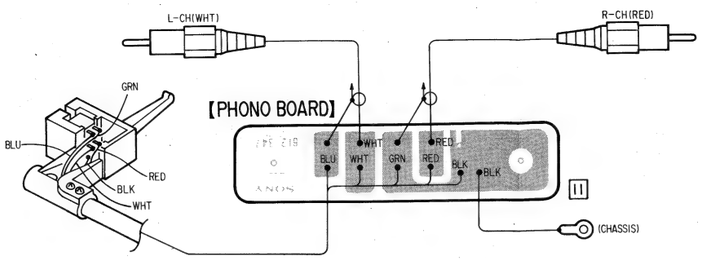


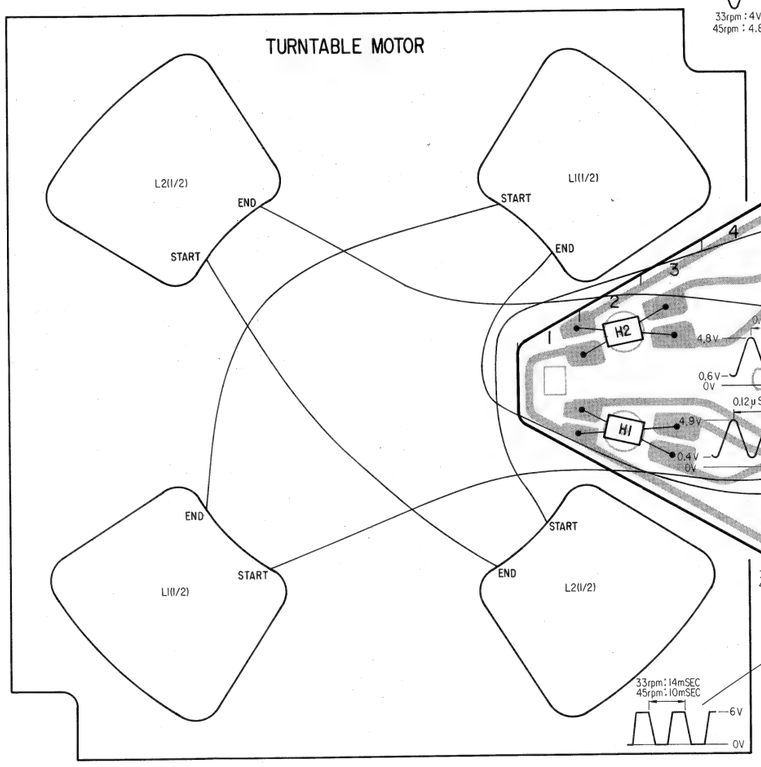
Note:

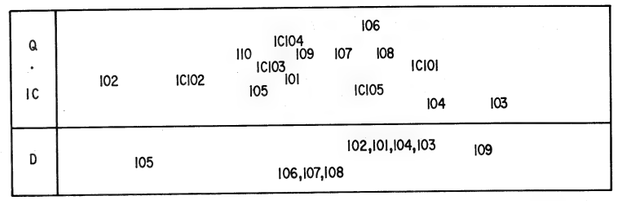
- Color code of sleeving over the end of the jacket.

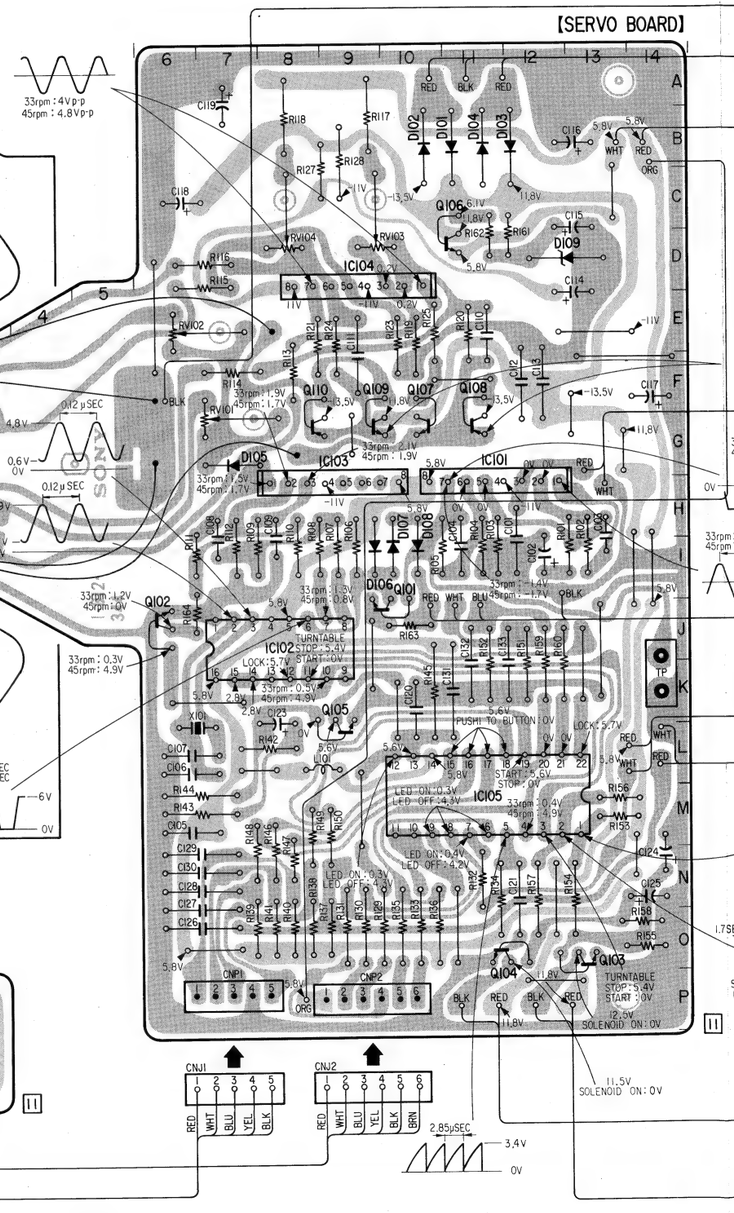


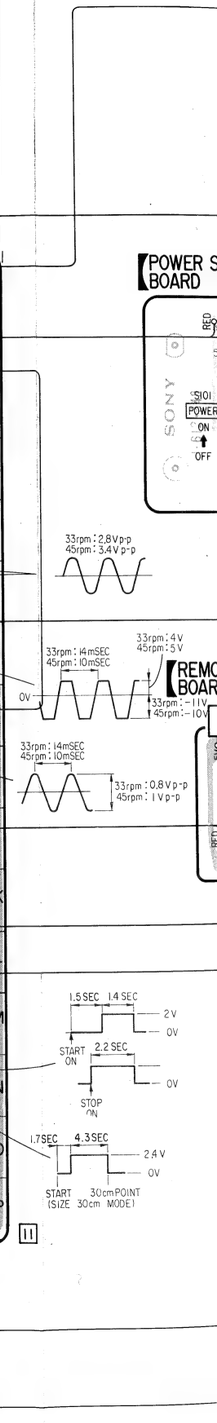
- ○— : parts extracted from the component side.
- ●— : parts extracted from the conductor side.
- ▒▒ : B+ pattern











Q・IC	I02 IC102 I05 IC103 I01 IC104 I10 I09 I07 I06 I08 IC101 IC105 I04 I03
D	I05 I02,I01,I04,I03 I09 I06,I07,I08

R-CH(RED)
GRN RED BLK BLK
CN
(CHASSIS)

TURNTABLE MOTOR
L2(I/2) END START
L1(I/2) START END
L1(I/2) END START
L2(I/2) START END

【SERVO BOARD】
33rpm : 4Vp-p
45rpm : 4.8Vp-p
0.12μSEC 4.8V
0.6V 0V
0.12μSEC 4.9V
0.4V 0V
H2
HI
33rpm : 1.2V
45rpm : 0V
33rpm : 0.3V
45rpm : 4.9V
33rpm : 14mSEC
45rpm : 10mSEC
6V 0V
33rpm : 1.9V
45rpm : 1.7V
33rpm : 2.1V
45rpm : 1.9V
33rpm : 1.5V
45rpm : 1.7V
33rpm : 1.3V
45rpm : 0.8V
33rpm : 1.4V
45rpm : 1.7V
TURNTABLE STOP : 5.4V START : 0V LOCK : 5.7V
PUSH TO BUTTON : 0V
START : 5.6V STOP : 0V
LED ON : 0.3V LED OFF : 4.2V
33rpm : 0.4V 45rpm : 4.9V
11.5V SOLENOID ON : 0V
12.5V SOLENOID ON : 0V
2.85μSEC 3.4V 0V
CNJ1 RED WHT BLU YEL BLK
CNJ2 RED WHT BLU YEL BLK BRN

【POWER SW BOARD】
(CHASSIS)
SW101 POWER ON OFF
RED WHT BLK 5.8V

【FG BOARD】
RED WHT

【REMOTE CONTROL BOARD】
33rpm : 14mSEC 45rpm : 10mSEC
33rpm : 4V 45rpm : 5V
33rpm : −11V 45rpm : −10V
33rpm : 0.8Vp-p 45rpm : 1Vp-p
CNP101 (REMOTE)
5V GND START STOP

【LED BOARD】
D201 QUARTZ LOCK
5.6V RED WHT

1.5SEC 1.4SEC 2V 0V
START ON 2.2SEC 0V STOP ON
1.7SEC 4.3SEC 2.4V 0V
START 30cmPOINT (SIZE 30cm MODE)

S106 (PLAY) ON OFF WHT RED

PMI01 (RESET) RED BLK
PMI02 SIZE (30cm) BLK RED

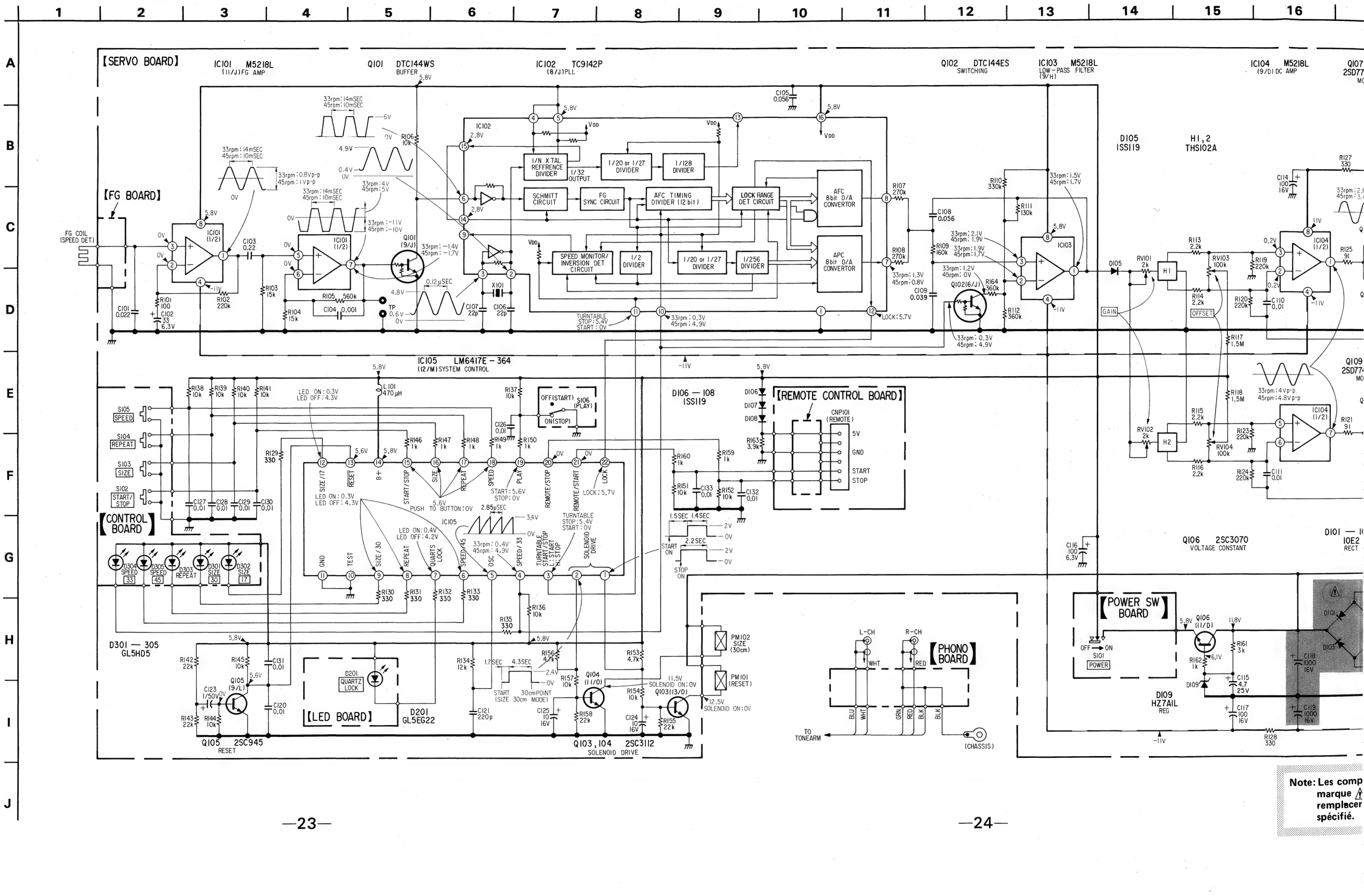
US, CANADIAN MODEL
T101 POWER
AC IN WHT ORG
【PRIMARY TRANSLATION BOARD】

AEP, UK MODEL
T101 POWER
VIO(AEP MODEL) RED(UK MODEL)
WHT (UK MODEL) RED VIO(AEP MODEL)
【PRIMARY TRANSLATION BOARD】
AC IN

E MODEL
T101 POWER
【PRIMARY TRANSLATION BOARD】
(VOLTAGE SELCTOR) 110−120V → 220−240V
BLU ORG BLU BLU WHT GRY
BLU PINK
AC IN

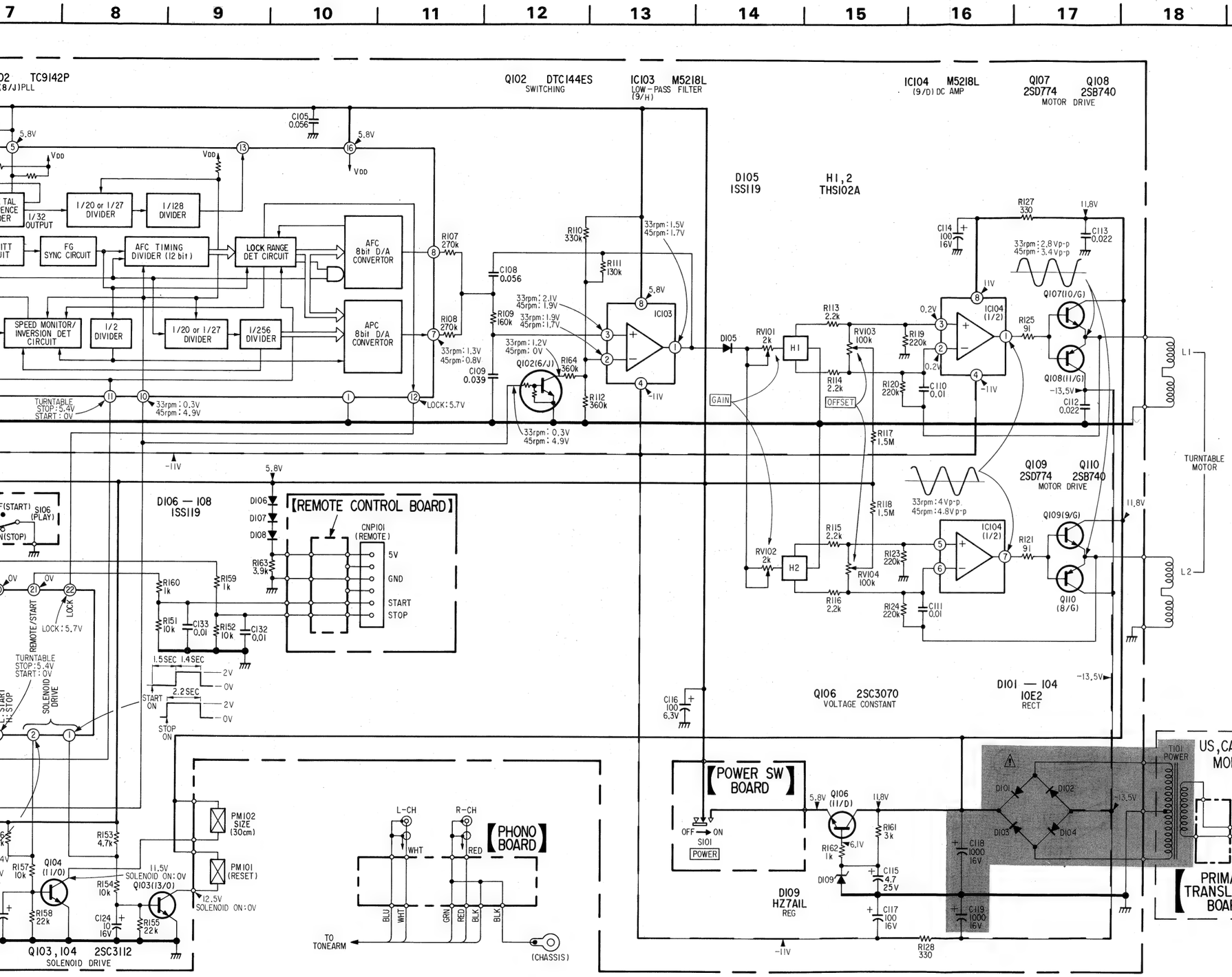
D301 D302 D303 (REPEAT) D304 D305
S104 REPEAT
S105 SPEED
RED WHT BLU YEL BLK BRN

4-2. SCHEMATIC DIAGRAM



Note: Les comp
marque ⚠
remplacer
spécifié.

PS-LX410/LX410(C)



Note:

- All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in ohms, 1/6W unless otherwise noted. kΩ : 1000Ω, MΩ : 1000kΩ
- ▭ : adjustment for repair.
- ——: B+ bus.
- – – –: B– bus.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken under no-signal (detuned) conditions with a VOM.
- Waveforms are taken with respect to ground with an oscilloscope.
- Switch

Ref. No.	Switch	Position
S101	POWER	OFF
S102	START/STOP	OFF
S103	SIZE	OFF
S104	REPEAT	OFF
S105	SPEED	OFF
S106	Play	OFF
	VOLTAGE SELECTOR (E model)	110 – 120V

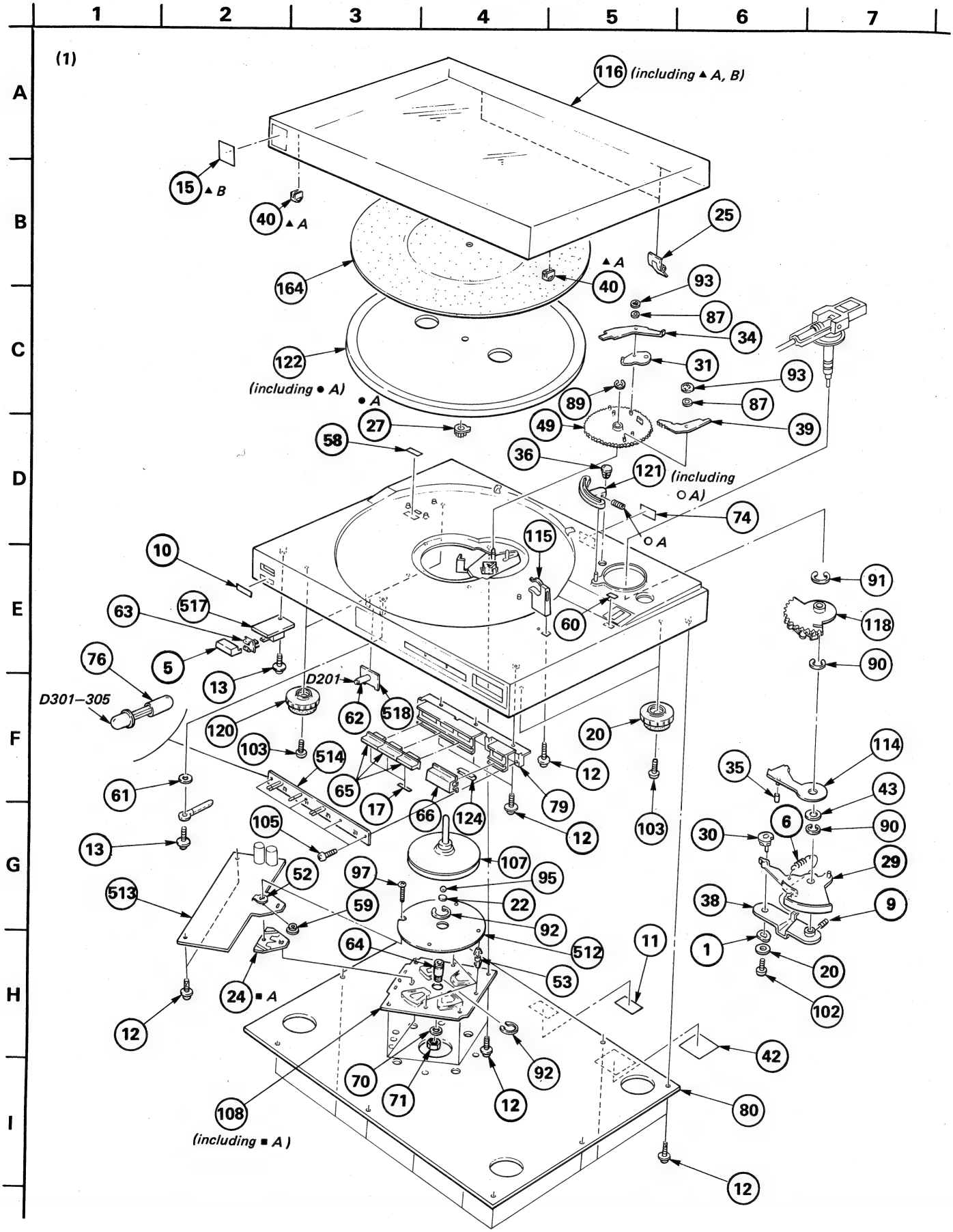
- Figures in parentheses behind Ref. No. of transistors and ICs locate these positions on the mounting diagram.

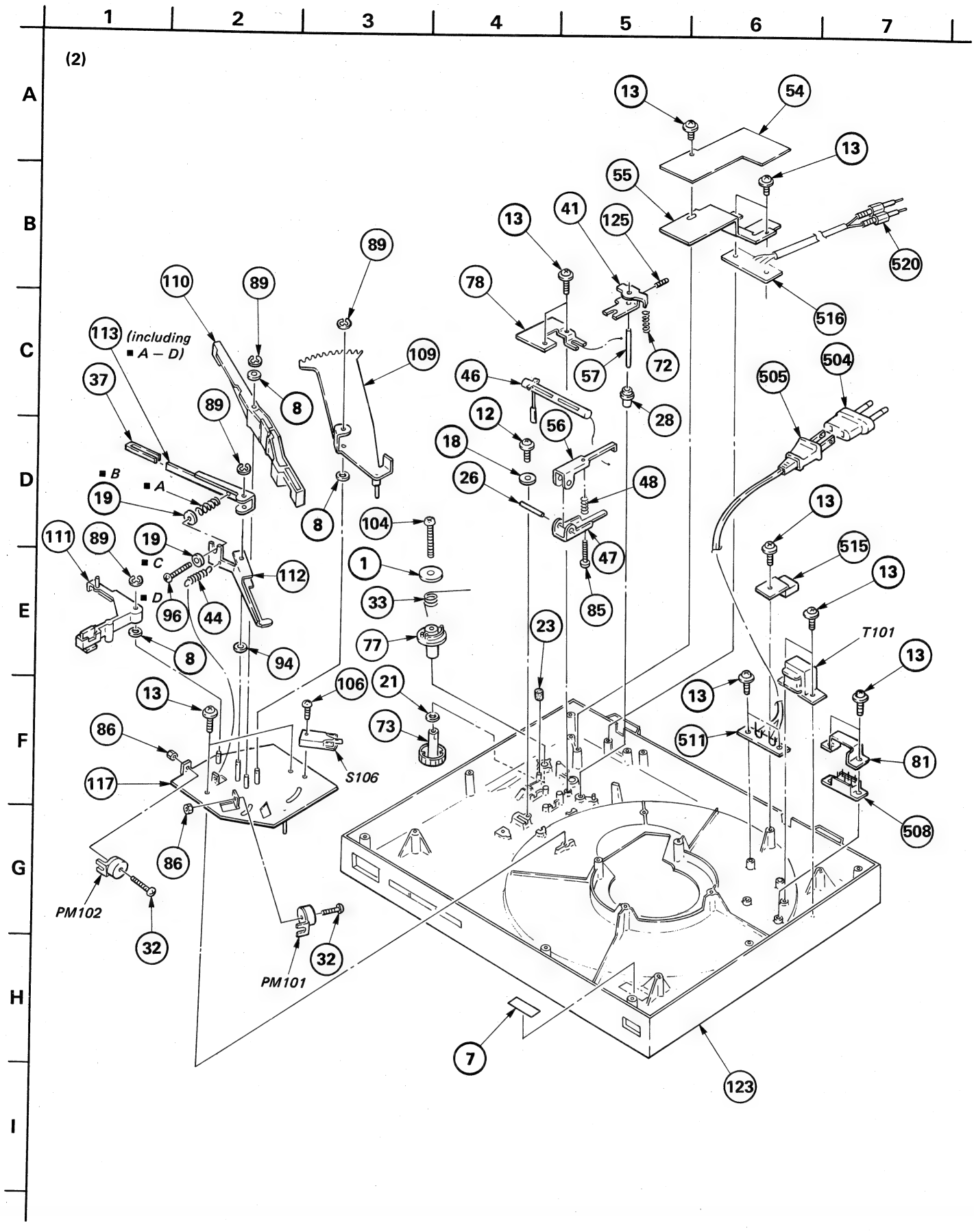
Note: Voltages are measured with a VOM (50kΩ/V).

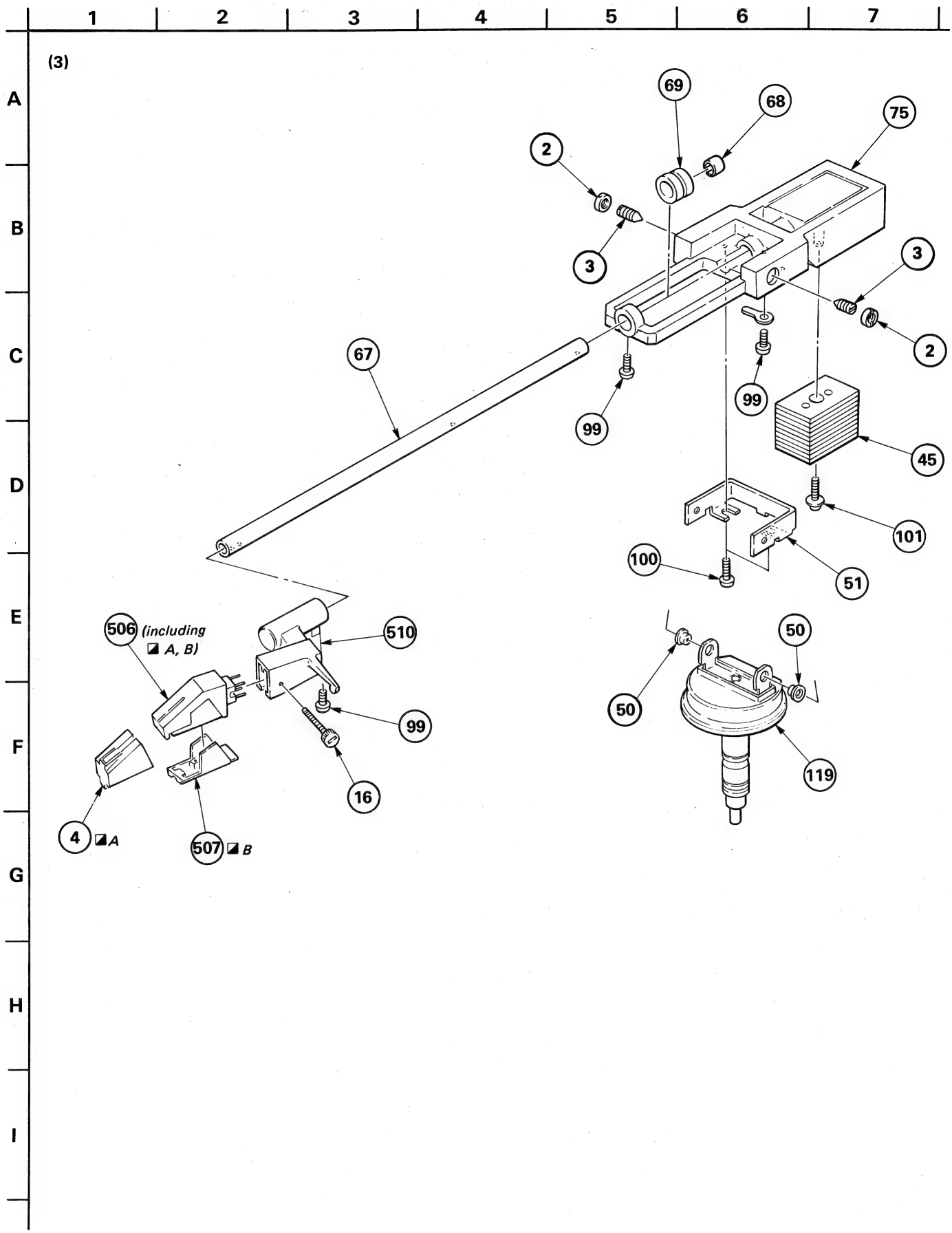
Note: Les composants identifiés par une trame et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

SECTION 5
EXPLODED VIEWS AND PARTS LIST




(2)
1
2
3
4
5
6
7
A
B
C
D
E
F
G
H
I
13
54
55
41
125
520
516
78
72
57
46
28
12
56
18
26
48
47
85
505
504
515
T101
511
81
508
110
89
113 (including ■ A – D)
37
109
8
104
1
33
77
23
106
21
73
S106
86
117
PM102
32
PM101
7
123
111
19
■ A
■ B
■ C
■ D
112
96
44
94
520


1
2
3
4
5
6
7
A
B
C
D
E
F
G
H
I
(3)
69
68
75
2
3
3
2
67
99
99
45
101
100
51
506 (including ◪ A, B)
510
99
16
4 ◪A
507 ◪B
50
50
119

GENERAL SECTION

No.	Part No.	Description
1	0-056-028-00	WASHER, PLAIN, 14 DIA.
2	2-203-518-61	SCREW, PIVOT
3	2-203-519-00	NUT (A), LOCK, PIVOT
4	2-231-824-01	(AEP,UK,E).....COVER, STYLUS
4	4-903-347-01	(Canadian,PS-LX410(C))...COVER, STYLUS
5	3-318-911-01	(SILVER)...KNOB (POWER.L), T MOLD
5	3-318-911-11	(BLACK)....KNOB (POWER,L), MOLD
6	3-548-124-00	SPRING, TENSION
7	3-701-030-00	LABEL, SERIAL NUMBER
8	3-701-441-21	WASHER
9	3-701-509-00	SET SCREW, DOUBLE CUP 3X8
10 ♦	3-701-690-00	(UK)....LABEL (MADE IN JAPAN)
11	3-703-043-21	(UK).....LABEL, CAUTION, MAIN
11	3-703-845-01	(US,canadian)...LABEL, CAUTION, MAIN
12	3-703-136-00	SCREW, PTPWH 3X12
13	3-703-137-00	SCREW, PTPWH 3X10
14 ♦	3-703-678-00	LABEL, CAUTION, NEW UL
15	3-703-705-01	STICKER, SONY SYMBOL (30)
16	3-706-937-01	SCREW, SET, CARTRIDGE
17	3-831-441-XX	SPACER (SRS)
18 ♦	4-301-647-00	WASHER, SPECIAL
19	4-812-554-00	WASHER
20	4-844-041-00	WASHER, (N)
21	4-844-041-11	WASHER, (N)
22	4-852-007-00	RETAINER (A), THRUST
23	4-852-841-00	TUBE
24	4-857-642-00	HOLDER, PC BOARD
25	4-857-653-00	HINGE, DUST COVER
26 ♦	4-861-940-00	SHAFT, LIFTER LEVER
27	4-868-052-00	GEAR, CENTER
28 ♦	4-874-218-00	CASE, PUSH ROD
29	4-874-223-00	LEVER (A), ARM
30	4-874-231-00	CAM, ECCENTRIC
31	4-874-232-00	CLUTCH (R)
32	4-874-234-00	CORE
33	4-874-250-00	SPRING
34	4-874-254-00	CLUTCH (S)
35	4-874-259-00	RUBBER, SHOCK ABSORBING
36	4-874-260-11	(BLACK)....CAP, BLIND
36	4-874-260-01	(SILVER)...CAP, BLIND
37	4-874-275-00	PAD, BRAKE
38	4-874-277-00	LEVER (B), ARM
39	4-874-279-00	CLUTCH (L)
40	4-876-304-00	CUSHION, DUST COVER

GENERAL SECTION

No.	Part No.	Description
41 ♦	4-876-317-00	GUIDE, LIFTER
42 ♦	4-876-344-00	(AEP)...LABEL, CAUTION, POWER CORD
43	4-876-324-21	POLY-SLIDER (DIA. 9.5)
44	4-903-424-01	SPRING, TENSION (RESET)
45	4-877-810-00	WEIGHT
46	4-877-824-00	CAM, LIFTER
47 ♦	4-880-501-00	LEVER (A), LIFTER
48	4-880-503-00	SPRING, COMPRESSION
49	4-880-524-00	GEAR (S), DRIVE
50	4-881-618-00	BEARING, PIVOT
51 ♦	4-881-628-00	REINFORCEMENT (A)
52 ♦	4-881-629-00	PLATE (A), GROUND
53	4-881-636-11	SUPPORT (TMD), PC
54 ♦	4-881-656-00	PLATE (UPPER), SHIELD
55 ♦	4-881-657-00	PLATE (LOWER), SHIELD
56 ♦	4-881-659-00	LEVER (C), LIFTER
57	4-881-688-00	ROD, PUSH
58 ♦	4-881-683-00	(E)....LABEL, VOLTAGE
59	4-885-727-00	SPACER
60 ♦	4-885-792-00	PLUG IN SEAL (A)
61	4-890-173-00	WASHER
62 ♦	4-901-657-00	SPACER (A), LED
63 ♦	4-902-831-01	JOINT (G), KNOB
64	4-903-304-01	BEARING
65	4-903-305-01	(SILVER)...KNOB (SRS), T MOLD
65	4-903-305-11	(BLACK)....KNOB (SRS), T MOLD
66	4-903-306-01	(SILVER)...KNOB (SR), T MOLD
66	4-903-306-11	(BLACK)....KNOB (SR), T MOLD
67	4-903-307-01	PIPE, ARM
68 ♦	4-903-308-01	SHEET (S)
69 ♦	4-903-312-01	WEIGHT, SUB
70	4-903-324-01	PACKING (TMD)
71 ♦	4-903-330-01	NUT (TMD), BEARING
72	4-903-331-01	SPRING (LIFTER), COMPRESSION
73	4-903-333-01	KNOB, IFC
74	4-903-401-01	(AEP).....LABEL, MODEL NUMBER
74	4-903-402-01	(US,Canadian)...LABEL, MODEL NUMBER
74	4-903-418-01	(UK).....LABEL, MODEL NUMBER
74	4-903-419-01	(E).....LABEL, MODEL NUMBER
75	4-903-336-01	JOINT, PIPE
76 ♦	4-903-408-01	SPACER, LED
77	4-903-409-01	CAM, IFC
78 ♦	4-903-410-01	RETAINER (C), LIFTER
79 ♦	4-903-412-01	HOLDER, SWITCH, CONTROL
80 ♦	4-903-416-01	BOARD, BOTTOM

NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked " ♦ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part numbers (Δ-ΔΔΔ-ΔΔΔ-XX or Δ-ΔΔΔΔ-ΔΔΔ-X) may be different from those used in the set.
- If there are two or more same circuitsin a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:
MF:μF, PF:μμF.

RESISTORS
- All resistors are in ohms.
- F : nonflammable

COILS
- MMH : mH, UH : μH

SEMICONDUCTORS
In each case, U : μ, for example:
UA···: μA···, UPA···: μPA···, UPC···: μPC, UPD···: μPD···

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés par une trame et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

GENERAL SECTION

No.	Part No.	Description
81 ♦	4-903-421-01	(E)...COVER, VOLTAGE SELECTION
82	7-621-712-17	SET-SCREW, SLOT 2.6X2 CUP POINT
83	7-621-738-08	SET-SCT, HEX. 2.6X4, FLAT POINT
84	7-621-770-67	SCREW +P 2.6X6
85	7-621-775-80	SCREW +B 2.6X16
86	7-622-207-05	N 2.6, TYPE 2
87	7-623-105-15	W 2,MIDDLE
88	7-623-505-01	LUG, 2
89	7-624-106-04	STOP RING 3.0, TYPE -E
90	7-624-133-44	STOP RING 9, TYPE-CE
91	7-624-133-54	STOP RING 10, TYPE-CE
92	7-624-133-94	STOP RING 15, TYPE-CE
93	7-624-190-81	STOP RING 2, TYPE-CS
94	3-701-441-11	WASHER
95	7-671-156-01	BALL, STENLESS
96	7-682-110-01	SCREW +P 3X18
97	7-682-149-13	SCREW +P 3X10
98	7-685-102-14	TOTSU PTPWH 2X4, TYPE 2, SLIT
99	7-685-103-24	SCREW +P 2X5 TYPE2 SLIT
100	7-685-105-24	SCREW +P 2X8 TYPE2 SLIT
101	7-685-134-14	SCREW, TOTSU PTPWH 2.6X8, TYPE2
102	7-685-145-14	SCREW +P 3X6 TYPE2 SLIT
103	7-685-150-14	SCREW +BVTP 3X16 TYPE2 SLIT
104	7-685-152-21	SCREW +P 3X25 TYPE2 SLIT
105	7-685-646-11	SCREW +BVTP 3X8 TYPE2 N-S
106	7-685-755-01	SCREW +PTT 3X14 (S)
107	A-4608-277-A	ROTOR ASSY
108	A-4608-278-A	STATOR ASSY
109 ♦	X-4874-202-0	LEVER ASSY, MAIN
110	X-4874-203-0	LEVER ASSY, CLUTCH
111 ♦	X-4874-204-0	LEVER ASSY, SIZE
112 ♦	X-4874-205-0	LEVER ASSY, RESET
113 ♦	X-4874-206-0	LEVER ASSY, BRAKE
114 ♦	X-4874-209-0	LEVER (B) ASSY, INDEX
115	X-4874-212-1	(SILVER)...REST ASSY, ARM
115	X-4874-212-X	(BLACK)....REST ASSY, ARM
116	X-4877-804-0	COVER ASSY, DUST
117 ♦	X-4881-608-0	CHASSIS ASSY
118	X-4881-610-0	LEVER (C) ASSY, INDEX
119	X-4881-611-0	JOINT ASSY, CENTER
120	X-4903-301-1	INSULATOR ASSY
121	X-4903-302-1	PLATE ASSY, UP AND DOWN
122	X-4903-303-1	TABLE ASSY, TURN
123	X-4903-401-1	FLAME ASSY
124	3-831-441-11	SPACER (T)
125	7-621-741-09	SEC-SCREW, HEX, 2.6X8

ACCESSORY & PACKING MATERIAL

No.	Part No.	Description
151	3-701-616-00	(US)....BAG, POLYETHYLENE
152	3-701-630-00	BAG, POLYETHYLENE
153	3-701-634-00	BAG, POLYETHYLENE
154	3-701-806-00	ADAPTOR, 45, (E)
155	3-773-847-11	(AEP,UK,E).....MANUAL, INSTRUCTION
156	3-773-847-21	(US,Canadian)...MANUAL, INSTRUCTION
157	3-773-847-41	(AEP).....MANUAL, INSTRUCTION
158	3-794-123-11	LABEL, CAUTION
159	3-795-753-21	(US)....INSTRUCTION
160	4-858-078-00	SHEET, PROTECTION
161	4-862-043-00	CUSHION, ARM
162	4-874-262-00	GUIDE, RECORD
163	4-876-320-00	SPACER, CLUTCH
164	4-877-807-11	SHEET, TURNTABLE
165	3-773-847-31	(Canadian)...MANUAL, INSTRUCTION
166	4-903-404-01	CUSHION, UPPER (LEFT)
167	4-903-405-01	CUSHION, UPPER (RIGHT)
168	4-903-406-01	CUSHION, LOWER (LEFT)
169	4-903-407-01	CUSHION, LOWER (RIGHT)
170	4-903-422-01	HOLDER, ARM
171	4-903-423-01	PLATE, PROTECTOR
172	4-903-425-02	(PS-LX410)....INDIVIDUAL, CARTON
173	4-903-426-02	(PS-LX410(C))...INDIVIDUAL, CARTON
174	4-903-427-01	HOLDER, TURUTABLE

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- MMH : mH, UH : μH

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In each case, U : μ, for example:
UA···: μA···, UPA···: μPA···, UPC···: μPC, UPD···: μPD···

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ELECTRICAL PARTS

Ref.No.	Part No.	Description
501	♦;1-508-800-13	U TYPE BASE POST 3P
502	♦;1-508-801-00	U TYPE BASE POST 4P
503	♦;1-508-880-00	BASE POST, MCD CONNECTOR 6P
504	⚠.1-526-565-00	(E)...AC PULG ADAPTOR
505	⚠.1-534-817-XX	(AEP).....CORD, POWER, EULO-PLUG
505	⚠.1-551-472-00	(E).....CORD, POWER
505	⚠.1-551-628-00	(US,Canadian)...CORD, POWER
505	⚠.1-551-884-00	(UK).....CORD, POWER
506	1-549-117-00	(PS-LX410(C))..CARTRIDGE(VL-45G)
506	A-4505-089-C	(AEP,UK,E).....CARTRIDGE (XL-250G)
507	1-549-118-11	(PS-LX410(C))...STYLUS ASSY, ND-145G
507	A-4587-071-C	(AEP,UK,E).....STYLUS ASSY, ND-250G
508	⚠.1-552-535-00	SWITCH, VOLTAGE SELECTOR
509	♦;1-560-070-00	BASE POST
510	1-562-517-11	CONNECTOR (WITH HEAD SHELL) 4P
511	♦;1-608-536-00	PC BOARD, PRIMARY TRANSLATION
512	♦;1-608-883-00	PC BOARD, FG
513	♦;1-612-344-11	PC BOARD, SERVO
514	♦;1-612-345-11	PC BOARD, CONTROL
515	♦;1-612-346-11	PC BOARD, REMOTE CONTROL
516	♦;1-612-347-11	PC BOARD, PHONO
517	♦;1-612-348-11	PC BOARD, POWER SW
518	♦;1-612-349-11	PC BOARD, LED
519	♦;A-4619-237-A	MOUNTED PCB, AMPLIFIER, SERVO

C101	1-161-494-00	CERAMIC	0.022MF	30%	25V
C102	1-123-318-00	ELECT	33MF	20%	6.3V
C103	1-130-636-00	FILM	0.22MF	5%	50V
C104	1-162-110-00	CERAMIC	0.001MF	10%	50V
C105	1-108-361-51	MYLAR	0.056MF	30%	25V
C106	1-162-052-00	CERAMIC	22PF	5%	50V
C107	1-162-052-00	CERAMIC	22PF	5%	50V
C108	1-130-629-00	FILM	0.056MF	5%	50V
C109	1-130-627-00	FILM	0.039MF	5%	50V
C110	1-162-113-00	CERAMIC	0.01MF	30%	16V
C111	1-162-113-00	CERAMIC	0.01MF	30%	16V
C112	1-161-494-00	CERAMIC	0.022MF	30%	25V
C113	1-161-494-00	CERAMIC	0.022MF	30%	25V
C114	1-123-333-00	ELECT	100MF	20%	16V
C115	1-123-328-00	ELECT	4.7MF	20%	25V
C116	1-123-295-00	ELECT	100MF	20%	6.3V
C117	1-123-333-00	ELECT	100MF	20%	16V
C118 ⚠	1-123-324-00	ELECT	1000MF	20%	16V
C119 ⚠	1-123-324-00	ELECT	1000MF	20%	16V
C120	1-162-113-00	CERAMIC	0.01MF	30%	16V
C121	1-162-102-00	CERAMIC	220PF	10%	50V
C123	1-123-380-00	ELECT	1MF	20%	50V

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
C124	1-123-356-00	ELECT	10MF	20%	16V
C125	1-123-356-00	ELECT	10MF	20%	16V
C126	1-162-113-00	CERAMIC	0.01MF	30%	16V
C127	1-162-113-00	CERAMIC	0.01MF	30%	16V
C128	1-162-113-00	CERAMIC	0.01MF	30%	16V
C129	1-162-113-00	CERAMIC	0.01MF	30%	16V
C130	1-162-113-00	CERAMIC	0.01MF	30%	16V
C131	1-162-113-00	CERAMIC	0.01MF	30%	16V
C132	1-162-113-00	CERAMIC	0.01MF	30%	16V
C133	1-162-113-00	CERAMIC	0.01MF	30%	16V
♦CNP101	1-560-317-00	CONNECTOR PIN 6P, REMOTE			
D101	⚠.8-719-200-02	DIODE 10E-2			
D102	⚠.8-719-200-02	DIODE 10E-2			
D103	⚠.8-719-200-02	DIODE 10E-2			
D104	⚠.8-719-200-02	DIODE 10E-2			
D105	8-719-911-19	DIODE 1SS119			
D106	8-719-911-19	DIODE 1SS119			
D107	8-719-911-19	DIODE 1SS119			
D108	8-719-911-19	DIODE 1SS119			
D109	8-719-910-71	DIODE HZ7A1L			
D201	8-719-907-36	DIODE GL-5EG22			
D301	8-719-904-55	DIODE GL-5HD5			
D302	8-719-904-55	DIODE GL-5HD5			
D303	8-719-904-55	DIODE GL-5HD5			
D304	8-719-904-55	DIODE GL-5HD5			
D305	8-719-904-55	DIODE GL-5HD5			
H1	8-719-800-17	THS102A			
H2	8-719-800-17	THS102A			
IC101	8-759-600-02	IC M5218L			
IC102	8-759-201-58	IC TC9142P			
IC103	8-759-600-02	IC M5218L			
IC104	8-759-600-02	IC M5218L			
IC105	8-759-800-94	IC LM6417E-364			
L101	1-408-894-00	MICRO INDUCTOR 470UH			
PM101	1-454-196-51	SOLENOID (RESET)			
PM102	1-454-196-51	SOLENOID (BRAKE)			
Q101	8-729-900-85	TRANSISTOR DTC144WS			
Q102	8-729-900-89	TRANSISTOR DTC144ES			
Q103	8-729-201-83	TRANSISTOR 2SC3112			
Q104	8-729-201-83	TRANSISTOR 2SC3112			
Q105	8-729-663-47	TRANSISTOR 2SC1364			
Q106	8-729-800-34	TRANSISTOR 2SC3070			

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ELECTRICAL PARTS

Ref.No.	Part No.	Description			
Q107	8-729-177-43	TRANSISTOR 2SD774			
Q108	8-729-374-02	TRANSISTOR 2SB740			
Q109	8-729-177-43	TRANSISTOR 2SD774			
Q110	8-729-374-02	TRANSISTOR 2SB740			
R101	1-247-807-00	CARBON	100	5%	1/6W
R102	1-247-887-00	CARBON	220K	5%	1/6W
R103	1-247-859-00	CARBON	15K	5%	1/6W
R104	1-247-859-00	CARBON	15K	5%	1/6W
R105	1-247-897-00	CARBON	560K	5%	1/6W
R106	1-247-855-00	CARBON	10K	5%	1/6W
R107	1-247-889-00	CARBON	270K	5%	1/6W
R108	1-247-889-00	CARBON	270K	5%	1/6W
R109	1-247-884-00	CARBON	160K	5%	1/6W
R110	1-247-891-00	CARBON	330K	5%	1/6W
R111	1-247-882-00	CARBON	130K	5%	1/6W
R112	1-247-892-00	CARBON	360K	5%	1/6W
R113	1-247-839-00	CARBON	2.2K	5%	1/6W
R114	1-247-839-00	CARBON	2.2K	5%	1/6W
R115	1-247-839-00	CARBON	2.2K	5%	1/6W
R116	1-247-839-00	CARBON	2.2K	5%	1/6W
R117	1-202-459-00	SOLID	1.5M	5%	1/4W
R118	1-202-459-00	SOLID	1.5M	5%	1/4W
R119	1-247-887-00	CARBON	220K	5%	1/6W
R120	1-247-887-00	CARBON	220K	5%	1/6W
R121	1-247-806-00	CARBON	91	5%	1/6W
R123	1-247-887-00	CARBON	220K	5%	1/6W
R124	1-247-887-00	CARBON	220K	5%	1/6W
R125	1-247-806-00	CARBON	91	5%	1/6W
R127	1-247-819-00	CARBON	330	5%	1/6W
R128	1-247-819-00	CARBON	330	5%	1/6W
R129	1-247-823-00	CARBON	470	5%	1/6W
R130	1-247-823-00	CARBON	470	5%	1/6W
R131	1-247-823-00	CARBON	470	5%	1/6W
R132	1-247-819-00	CARBON	330	5%	1/6W
R133	1-247-823-00	CARBON	470	5%	1/6W
R134	1-247-857-00	CARBON	12K	5%	1/6W
R135	1-247-823-00	CARBON	470	5%	1/6W
R136	1-247-855-00	CARBON	10K	5%	1/6W
R137	1-247-855-00	CARBON	10K	5%	1/6W
R138	1-247-855-00	CARBON	10K	5%	1/6W
R139	1-247-855-00	CARBON	10K	5%	1/6W
R140	1-247-855-00	CARBON	10K	5%	1/6W
R141	1-247-855-00	CARBON	10K	5%	1/6W
R142	1-247-863-00	CARBON	22K	5%	1/6W
R143	1-247-863-00	CARBON	22K	5%	1/6W
R144	1-247-855-00	CARBON	10K	5%	1/6W

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R145	1-247-855-00	CARBON	10K	5%	1/6W
R146	1-247-831-00	CARBON	1K	5%	1/6W
R147	1-247-831-00	CARBON	1K	5%	1/6W
R148	1-247-831-00	CARBON	1K	5%	1/6W
R149	1-247-831-00	CARBON	1K	5%	1/6W
R150	1-247-831-00	CARBON	1K	5%	1/6W
R151	1-247-855-00	CARBON	10K	5%	1/6W
R152	1-247-855-00	CARBON	10K	5%	1/6W
R153	1-247-847-00	CARBON	4.7K	5%	1/6W
R154	1-247-855-00	CARBON	10K	5%	1/6W
R155	1-247-863-00	CARBON	22K	5%	1/6W
R156	1-247-847-00	CARBON	4.7K	5%	1/6W
R157	1-247-855-00	CARBON	10K	5%	1/6W
R158	1-247-863-00	CARBON	22K	5%	1/6W
R159	1-247-831-00	CARBON	1K	5%	1/6W
R160	1-247-831-00	CARBON	1K	5%	1/6W
R161	1-247-842-00	CARBON	3K	5%	1/6W
R162	1-247-831-00	CARBON	1K	5%	1/6W
R163	1-247-845-00	CARBON	3.9K	5%	1/6W
R164	1-247-892-00	CARBON	360K	5%	1/6W
RV101	1-226-234-00	RES, ADJ, CARBON 2K			
RV102	1-226-234-00	RES, ADJ, CARBON 2K			
RV103	1-226-239-00	RES, ADJ, CARBON 100K			
RV104	1-226-239-00	RES, ADJ, CARBON 100K			
S101 ⚠	1-552-928-00	SWITCH			
S102	1-554-303-00	SWITCH, KEY BOARD			
S103	1-554-303-00	SWITCH, KEY BOARD			
S104	1-554-303-00	SWITCH, KEY BOARD			
S105	1-554-303-00	SWITCH, KEY BOARD			
S106	1-516-657-00	SWITCH, MICRO			
T101 ⚠	1-447-256-00	(US,Canadian)...TRANSFORMER, POWER			
T101 ⚠	1-447-257-00	(AEP,UK).....TRANSFORMER, POWER			
T101 ⚠	1-447-691-00	(E).....TRANSFORMER, POWER			
X101	1-567-259-11	VIBRATOR, CRYSTAL			

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